

```
=> file reg
FILE 'REGISTRY'
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```

```
=> d his
```

```
FILE 'REGISTRY'
ACT LEE157/Q
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```
-----  
L1      STR  
L2      SCR 2043  
L3      QUE L1 AND L2  
-----  
L4      33 S L3
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FILE 'HCAPLUS'
L5      268124 S LI ?/AU
L6      453 S VARANASI ?/AU
L7      14 S L5 AND L6
      SEL L7 1-14 RN
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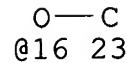
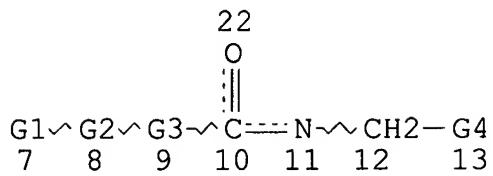
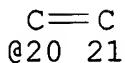
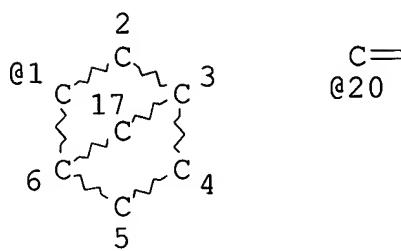
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FILE 'REGISTRY'
L8      73 S E1-E73
L9      28 S L8 AND PMS/CI
L10     2 S L9 AND N/ELS
L11     6605 S L3 FUL
      DEL LEE157/Q
      SAV L11 LEE157/A
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```
FILE 'LREGISTRY'
      E NORBORNE/CN
L12     1 S E3
```

```
FILE 'REGISTRY'
L13     31604 S 103.10.3/RID
L14     7 S L11 AND L13
L15     119822 S C5-C5/ES
L16     STR L1
L17     0 S L16 SSS SAM SUB=L11
L18     0 S L16 SSS FUL SUB=L11
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FILE 'REGISTRY'
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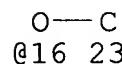
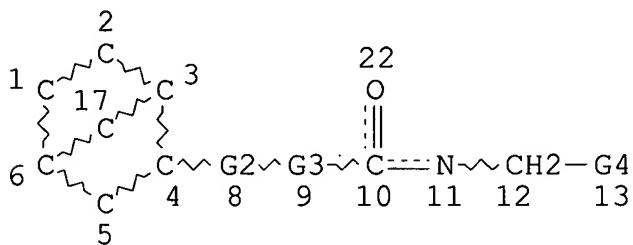
=> d 118 que stat  
 L1 STR



VAR G1=20/1  
 REP G2=(0-3) A  
 REP G3=(0-5) C  
 VAR G4=OH/16  
 NODE ATTRIBUTES:  
 NSPEC IS RC AT 23  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 19

STEREO ATTRIBUTES: NONE  
 L2 SCR 2043  
 L11 6605 SEA FILE=REGISTRY SSS FUL L1 AND L2  
 L16 STR



REP G2=(0-3) A  
 REP G3=(0-5) C  
 VAR G4=OH/16  
 NODE ATTRIBUTES:  
 NSPEC IS RC AT 23  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 16

STEREO ATTRIBUTES: NONE  
L18 0 SEA FILE=REGISTRY SUB=L11 SSS FUL L16

100.0% PROCESSED 185 ITERATIONS  
SEARCH TIME: 00.00.01

0 ANSWERS

=> file reg  
FILE 'REGISTRY'  
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=> d his

FILE 'REGISTRY'  
ACT LEE157/Q  
-----  
L1 STR  
L2 SCR 2043  
L3 QUE L1 AND L2  
-----  
L4 33 S L3  
  
FILE 'HCAPLUS'  
L5 268124 S LI ?/AU  
L6 453 S VARANASI ?/AU  
L7 14 S L5 AND L6  
SEL L7 1-14 RN  
  
FILE 'REGISTRY'  
L8 73 S E1-E73  
L9 28 S L8 AND PMS/CI  
L10 2 S L9 AND N/ELS  
L11 6605 S L3 FUL  
DEL LEE157/Q  
SAV L11 LEE157/A  
  
FILE 'LREGISTRY'  
E NORBORNE/CN  
L12 1 S E3  
  
FILE 'REGISTRY'  
L13 31604 S 103.10.3/RID  
L14 7 S L11 AND L13  
L15 119822 S C5-C5/ES  
L16 STR L1  
L17 0 S L16 SSS SAM SUB=L11  
L18 0 S L16 SSS FUL SUB=L11  
L19 527 S 923-02-4/CRN  
L20 3501 S 924-42-5/CRN  
L21 2596 S L11 NOT (L19 OR L20)

L22 285 S L21 NOT 2<NC

FILE 'HCA'

L23 340 S L22  
 L24 2633 S (NEG# OR NEGATIV?) (3A) (PHOTORESIST? OR PHOTO(2A)RESIST?  
 L25 3652 S (NEG# OR NEGATIV?) (2A)WORK?  
 L26 85763 S RESIST OR RESISTS OR PHOTORESIST?  
 L27 2 S L23 AND L24  
 L28 4 S L23 AND L25 AND L26  
 L29 23 S L23 AND L26  
 L30 QUE NEG# OR NEGATIV?  
 L31 5 S L29 AND L30  
 L32 5526 S L11  
 L33 4 S L32 AND L24  
 L34 7 S L32 AND L25 AND L26  
 L35 104 S L32 AND L26  
 L36 12 S L35 AND L30

FILE 'REGISTRY'

L37 4009 S L11 NOT L21  
 L38 247 S L37 NOT 2<NC

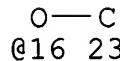
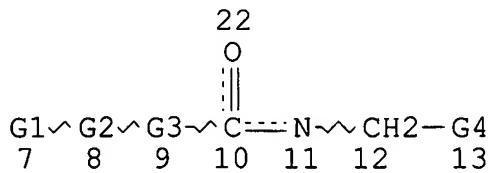
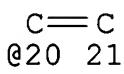
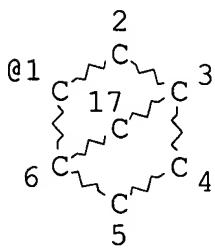
FILE 'HCA'

L39 1020 S L38  
 L40 4114 S L37  
 L41 1 S L39 AND L24  
 L42 3 S L40 AND L24  
 L43 5 S L40 AND L25 AND L26  
 L44 61 S L40 AND L26  
 L45 7 S L44 AND L30  
 L46 12 S L27 OR L28 OR L31 OR L33 OR L34 OR L36 OR L41 OR L42 OR  
 L47 18 S L29 NOT L46

FILE 'REGISTRY'

=> d l11 que stat

L1 STR



VAR G1=20/1  
 REP G2=(0-3) A  
 REP G3=(0-5) C  
 VAR G4=OH/16

## NODE ATTRIBUTES:

NSPEC IS RC AT 23  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 19

## STEREO ATTRIBUTES: NONE

L2 SCR 2043  
 L11 6605 SEA FILE=REGISTRY SSS FUL L1 AND L2

100.0% PROCESSED 177273 ITERATIONS  
 SEARCH TIME: 00.00.02

6605 ANSWERS

=> file hca  
 FILE 'HCA'  
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=> d 146 1-12 cbib abs hitstr hitind

L46 ANSWER 1 OF 12 HCA COPYRIGHT 2005 ACS on STN  
 140:10756 Fabrication of ink-repellent patterns and of color filters by  
 ink-jet printing and liquid crystal displays therewith. Sakamoto,  
 Junichi; Iwata, Kenichi; Okada, Yoshikatsu (Canon Inc., Japan).  
 Jpn. Kokai Tokkyo Koho JP 2003345002 A2 20031203, 12 pp.  
 (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-155762 20020529.

AB  
 no x  
 IT  
 multihyd  
 Compd.  
 In the process, **neg. resist** layers are  
 patternwise exposed to actinic rays in atm. to have image parts with  
 contact angle larger than that of the backgrounds to inks (e.g., for  
 filter layers, light-emitting layers, wiring patterns, etc.). The  
 atm. may contain gases chosen from CF4, CHF3, C2F6, SF6, C3F8,  
 and/or C5F8.

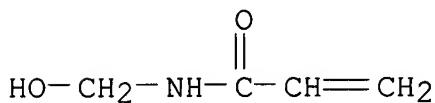
IT 160109-42-2P, 2-Hydroxyethyl methacrylate-N-  
 methylolacrylamide-methyl methacrylate copolymer  
 (pigmented, filter layers; manuf. of ink-repellent patterns for  
 black matrixes and barrier ribs by photoimaging in F-contg. atm.)

Also, although onium salt is taught, it is being  
 used as polymerization initiator  
 not as PAG.

RN 160109-42-2 HCA  
 CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with  
 N-(hydroxymethyl)-2-propenamide and methyl 2-methyl-2-propenoate  
 (9CI) (CA INDEX NAME)

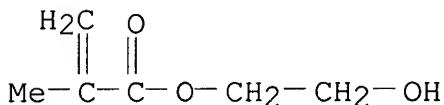
CM 1

CRN 924-42-5  
 CMF C4 H7 N O2



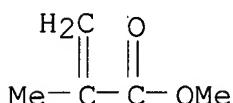
CM 2

CRN 868-77-9  
 CMF C6 H10 O3



CM 3

CRN 80-62-6  
 CMF C5 H8 O2



IC ICM G03F007-004  
 ICS G02B005-20; G02F001-13; G02F001-1335; G03F007-038; G03F007-20;  
 G03F007-40  
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 Section cross-reference(s): 73, 76  
 ST fluorine atm **resist** patterning ink repellency; LCD color  
 filter ink jet printing; perfluoromethane atm patternwise exposure  
 rib fabrication  
 IT **160109-42-2P**, 2-Hydroxyethyl methacrylate-N-  
 methylolacrylamide-methyl methacrylate copolymer

(pigmented, filter layers; manuf. of ink-repellent patterns for black matrixes and barrier ribs by photoimaging in F-contg. atm.)

L46 ANSWER 2 OF 12 HCA COPYRIGHT 2005 ACS on STN

139:140978 **Negative**-type light sensitive resin composition containing component prepared by Michael addition reaction. Takanashi, Hiroshi; Kudo, Tomoya; Obata, Takekazu (Tokyo Ohka Kogyo Co., Ltd., Japan). Ger. Offen. DE 10304631 A1 20030207, 26 pp. (German). CODEN: GWXXBX. APPLICATION: DE 2003-10304631 20030205. PRIORITY: JP 2002-28484 20020205.

AB A **neg.** type light sensitive resin compn. comprises a component (A), the product of the Michael addn. reaction between an amino group-contg. compd.  $H_2N(CH_2CH_2NH)_nCH_2CH_2NH_2$  [ $n = 1-4$ ] and a polyethyleneglycol di(meth)acrylate  $H_2C:C(R_1)COc(CH_2CH_2O)_mCOc(R_1):CH_2$  [ $m = 4-14$ ;  $R_1 = H$ , methyl], a component (B), a binder polymer, a component (C), a photopolymn. initiator, and a component (D), a photopolymerizable ethylenic compd. The compn. is applicable to broad areas of printing plates, photomasks, CRT shadow masks, etc. The compn. shows water-resistance, acid etch-resistance, and development-durability.

IT **569362-51-2P**, N-Methylolacrylamide-pentaerythritol copolymer (photopolymerizable compd. in **neg.**-type light sensitive resin compn. contg. component prep'd. by Michael addn. reaction)

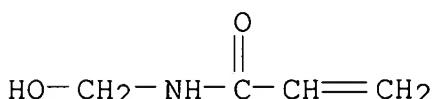
RN 569362-51-2 HCA

CN 2-Propenamide, N-(hydroxymethyl)-, polymer with 2,2-bis(hydroxymethyl)-1,3-propanediol (9CI) (CA INDEX NAME)

CM 1

CRN 924-42-5

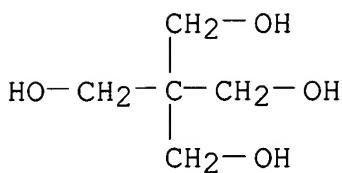
CMF C4 H7 N O2



CM 2

CRN 115-77-5

CMF C5 H12 O4



IT 64217-83-0

(photopolymerizable component in **neg.**-type light sensitive resin compn. contg. component prep'd. by Michael addn. reaction)

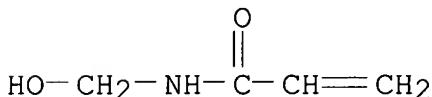
RN 64217-83-0 HCA

CN 2-Propenamide, N-(hydroxymethyl)-, polymer with N,N'-bis(methoxymethyl)urea (9CI) (CA INDEX NAME)

CM 1

CRN 924-42-5

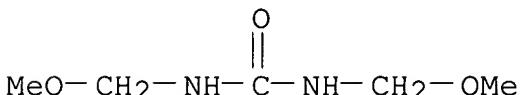
CMF C4 H7 N O2



CM 2

CRN 141-07-1

CMF C5 H12 N2 O3



IC ICM G03F007-004

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

ST **neg working** light sensitive resin compn  
photosensitive polymer **photoresist**

IT Michael reaction

**Negative photoresists**

(**neg.**-type light sensitive resin compn. contg.  
component prep'd. by Michael addn. reaction)

IT Photomasks (lithographic masks)

## Shadow masks

(**neg.**-type light sensitive resin compn. contg. component prep'd. by Michael addn. reaction for manufg.)

IT 105521-74-2, Gohsenol GH20 195889-45-3, PVA 505  
(binder in **neg.**-type light sensitive resin compn. contg. component prep'd. by Michael addn. reaction)

IT 569362-45-4P, Polyethyleneglycol diacrylate-tetraethylenepentaamine copolymer 569362-46-5P 569362-47-6P 569362-48-7P 569362-49-8P  
(in **neg.**-type light sensitive resin compn. contg. component prep'd. by Michael addn. reaction)

IT **569362-51-2P**, N-Methylolacrylamide-pentaerythritol copolymer (photopolymerizable compd. in **neg.**-type light sensitive resin compn. contg. component prep'd. by Michael addn. reaction)

IT **64217-83-0**  
(photopolymerizable component in **neg.**-type light sensitive resin compn. contg. component prep'd. by Michael addn. reaction)

IT 24650-42-8  
(photopolymn. initiator in **neg.**-type light sensitive resin compn. contg. component prep'd. by Michael addn. reaction)

IT 569362-50-1P  
(water-sol. binder polymer in **neg.**-type light sensitive resin compn. contg. component prep'd. by Michael addn. reaction)

L46 ANSWER 3 OF 12 HCA COPYRIGHT 2005 ACS on STN

138:161160 Color filters and production methods therefor and liquid crystal elements therewith. Nishi, Akio (Canon Inc., Japan). Jpn. Kokai Tokkyo Koho JP 2003043238 A2 20030213, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-226951 20010727.

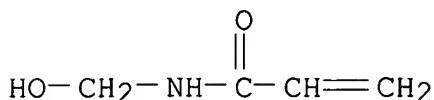
AB A prodn. method includes forming resin black matrixes having columns and rows of openings on a transparent substrate, forming hollows on the sections between the neighboring openings in the columns, and filling a column continuously with the same color ink. The hollows suppress the unevenness in the color parts. Thus, glass was spin coated with V 259 BK 739P (a **neg. resist** ink), exposed to light using a mask to form a pattern, developed to form a black matrix pattern having openings and hollows, ink jet printed with thermosetting inks contg. red, green, and blue dyes, and cured to prep. a color filter.

IT **160109-42-2**, Hydroxyethyl methacrylate-N-methylolacrylamide-methyl methacrylate copolymer  
(inks; color filters and prodn. methods therefor and liq. crystal elements therewith)

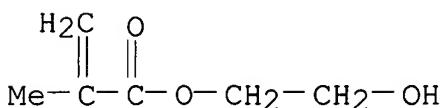
RN 160109-42-2 HCA

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with N-(hydroxymethyl)-2-propenamide and methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

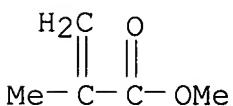
CM 1

CRN 924-42-5  
CMF C4 H7 N O2

CM 2

CRN 868-77-9  
CMF C6 H10 O3

CM 3

CRN 80-62-6  
CMF C5 H8 O2IC ICM G02B005-20  
ICS B41J002-01; C09D011-00; G02B005-00; G02F001-1335; G03F007-11;  
G03F007-40CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)

IT Electric conductors

Optical filters

**Photoresists**

Pigments, nonbiological

**Resists**(color filters and prodn. methods therefor and liq. crystal  
elements therewith).IT **160109-42-2**, Hydroxyethyl methacrylate-N-methylolacrylamide-  
methyl methacrylate copolymer  
(inks; color filters and prodn. methods therefor and liq. crystal

elements therewith)

L46 ANSWER 4 OF 12 HCA COPYRIGHT 2005 ACS on STN  
 136:191809 Optical element, its manufacture by ink-jet method, and  
 liquid crystal element. Okada, Yoshihatsu; Iwata, Kenichi;  
 Sakamoto, Junichi; Shiba, Shoji; Takano, Katsuhiko; Okada, Takeshi;  
 Taniuchi, Hiroshi; Nishida, Taketo (Canon Inc., Japan). Jpn. Kokai  
 Tokkyo Koho JP 2002055218 A2 20020220, 13 pp. (Japanese). CODEN:  
 JKXXAF. APPLICATION: JP 2000-240570 20000809.

AB The element, comprising a support having barrier ribs made of resin compn. and pixels, is manufd. by (1) forming **neg.** photosensitive resin layer on the substrate, (2) patternwise exposing the resin compn. and removing the upper part of the resin at the unexposed area, (3) processing the resin compn. with F, (4) completely removing the resin compn. at the unexposed area for barrier rib formation, and (5) adding ink between the barrier rib by ink-jet method for pixel formation. The manufd. optical element and liq. crystal element using the it as a color filter are also claimed. As the upper part of the barrier rib has an ink repelling property and the under part has ink affinity, color contamination and white defect of the element are prevented.

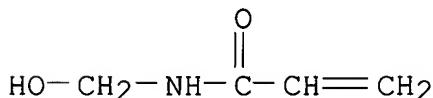
IT 160109-42-2, 2-Hydroxyethyl methacrylate-methyl methacrylate-N-methylolacrylamide copolymer  
 (ink compn.; manuf. of color filter by ink-jet method using fluorine-treated **resist** as barrier rib)

RN 160109-42-2 HCA

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with N-(hydroxymethyl)-2-propenamide and methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

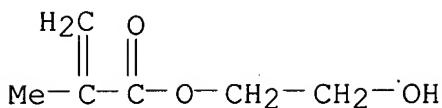
CM 1

CRN 924-42-5  
 CMF C4 H7 N O2

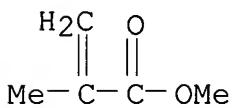


CM 2

CRN 868-77-9  
 CMF C6 H10 O3



CM 3

CRN 80-62-6  
CMF C5 H8 O2IC ICM G02B005-20  
ICS B41J002-01; G02B005-00; G02F001-1335; H05B033-10; H05B033-12;  
H05B033-14CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)

Section cross-reference(s): 73

IT **Resists**(neg.-working; manuf. of color filter by  
ink-jet method using fluorine-treated **resist** as barrier  
rib)IT **160109-42-2**, 2-Hydroxyethyl methacrylate-methyl  
methacrylate-N-methyloacrylamide copolymer(ink compn.; manuf. of color filter by ink-jet method using  
fluorine-treated **resist** as barrier rib)

IT 299398-75-7, V 259

(manuf. of color filter by ink-jet method using fluorine-treated  
**resist** as barrier rib)

IT 75-73-0

(manuf. of color filter by ink-jet method using fluorine-treated  
**resist** as barrier rib)

L46 ANSWER 5 OF 12 HCA COPYRIGHT 2005 ACS on STN

133:274344 Thermally reactive near infrared absorption polymer coatings,  
method of preparing and methods of use. Nguyen, My T. (American Dye  
Source, Inc., Can.). U.S. US 6124425 A 20000926, 16 pp.  
(English). CODEN: USXXAM. APPLICATION: US 1999-275032 19990318.AB Provided here are novel polymeric coating materials for direct  
digital imaging by laser. More specifically the novel coating  
materials are thermally reactive near IR absorption polymers  
designed for use with near IR laser imaging devices. This invention  
further extends to the prepn. and methods of use of the novelno  
multihydry  
compd.

materials. The invention is particularly useful in the prepn. of lithog. printing plates for computer-to-plate and digital-offset-press technologies. The invention extends to **photoresist** applications, to rapid prototyping of printed circuit boards and to chem. sensor development.

IT **28015-39-6**, Methyl methacrylate-N-(methoxymethyl)methacrylamide copolymer  
(prepn. of **neg.** thermal printing plate for direct digital laser imaging using)

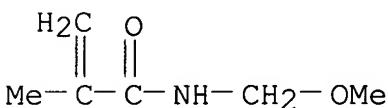
RN 28015-39-6 HCA

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with N-(methoxymethyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 3644-12-0

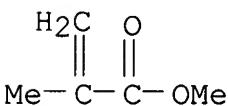
CMF C6 H11 N O2



CM 2

CRN 80-62-6

CMF C5 H8 O2



IT **297174-00-6P 297174-03-9P 297174-06-2P**  
**297174-07-3P 297174-09-5P 297174-11-9P**  
**297174-13-1P 297174-15-3P 297174-17-5P**  
**297174-20-0P**

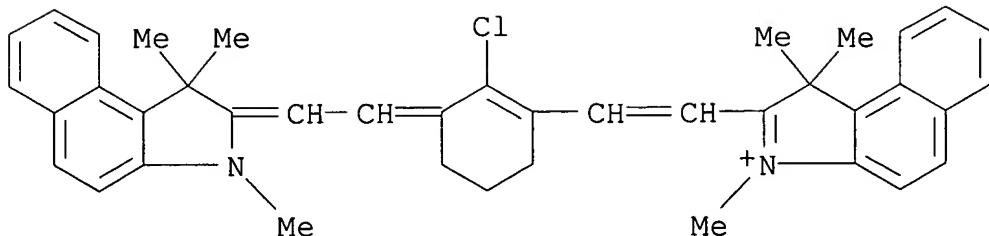
(synthesis of near-IR absorption polymer thermal coatings for direct digital imaging by laser)

RN 297174-00-6 HCA

CN 1H-Benz[e]indolium, 2-[2-[2-chloro-3-[(1,3-dihydro-1,1,3-trimethyl-2H-benz[e]indol-2-ylidene)ethylidene]-1-cyclohexen-1-yl]ethenyl]-1,1,3-trimethyl-, chloride, compd. with 4-ethenylpyridine polymer with N-(methoxymethyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 297173-98-9  
 CMF C40 H40 Cl N2 . Cl



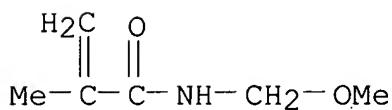
● Cl<sup>-</sup>

CM 2

CRN 297173-99-0  
 CMF (C7 H7 N . C6 H11 N O2)x  
 CCI PMS

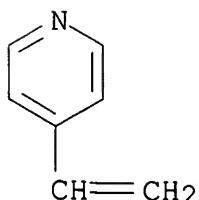
CM 3

CRN 3644-12-0  
 CMF C6 H11 N O2



CM 4

CRN 100-43-6  
 CMF C7 H7 N



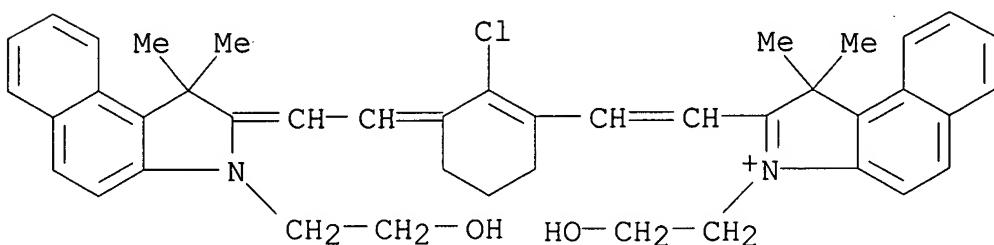
RN 297174-03-9 HCA

CN 1H-Benz[e]indolium, 2-[2-[2-chloro-3-[[1,3-dihydro-3-(2-hydroxyethyl)-1,1-dimethyl-2H-benz[e]indol-2-ylidene]ethylidene]-1-cyclohexen-1-yl]ethenyl]-3-(2-hydroxyethyl)-1,1-dimethyl-, chloride, compd. with 4-ethenylpyridine polymer with N-(methoxymethyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 297174-02-8

CMF C42 H44 Cl N2 O2 . Cl

● Cl<sup>-</sup>

CM 2

CRN 297173-99-0

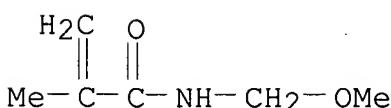
CMF (C7 H7 N . C6 H11 N O2)x

CCI PMS

CM 3

CRN 3644-12-0

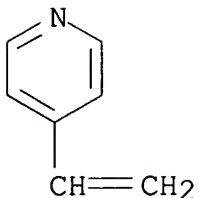
CMF C6 H11 N O2



CM 4

CRN 100-43-6

CMF C7 H7 N



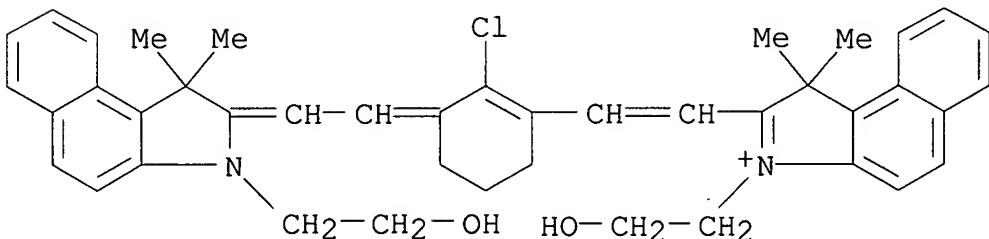
RN 297174-06-2 HCA

CN 1H-Benz[e]indolium, 2-[2-[2-chloro-3-[[1,3-dihydro-3-(2-hydroxyethyl)-1,1-dimethyl-2H-benz[e]indol-2-ylidene]ethylidene]-1-cyclohexen-1-yl]ethenyl]-3-(2-hydroxyethyl)-1,1-dimethyl-, chloride, compd. with butyl 2-methyl-2-propenoate polymer with 4-ethenylpyridine and N-(methoxymethyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 297174-02-8

CMF C42 H44 Cl N2 O2 . Cl

 $\bullet \text{Cl}^-$ 

CM 2

CRN 297174-05-1

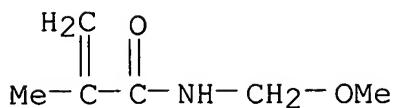
CMF (C8 H14 O2 . C7 H7 N . C6 H11 N O2)x

CCI PMS

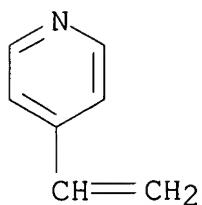
CM 3

CRN 3644-12-0

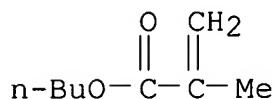
CMF C6 H11 N O2



CM 4

CRN 100-43-6  
CMF C7 H7 N

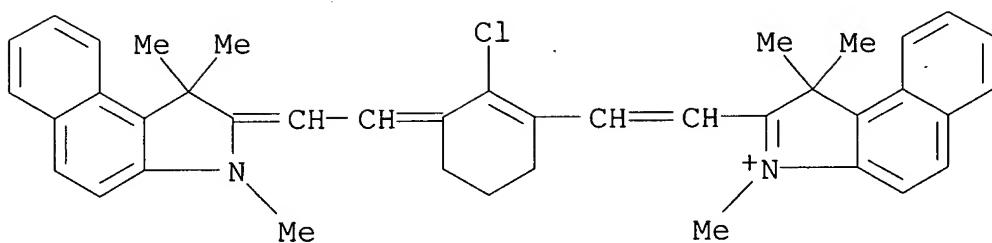
CM 5

CRN 97-88-1  
CMF C8 H14 O2

RN 297174-07-3 HCA  
 CN 1H-Benz[e]indolium, 2-[2-[2-chloro-3-[(1,3-dihydro-1,1,3-trimethyl-2H-benz[e]indol-2-ylidene)ethylidene]-1-cyclohexen-1-yl]ethenyl]-1,1,3-trimethyl-, chloride, compd. with 2-chloroethenol and 4-ethenylpyridine polymer with N-(methoxymethyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 297173-98-9  
CMF C40 H40 Cl N2 . Cl



● Cl<sup>-</sup>

CM 2

CRN 107-07-3  
CMF C2 H5 Cl O

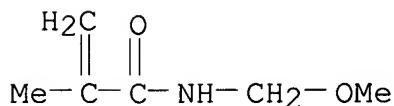
Cl—CH<sub>2</sub>—CH<sub>2</sub>—OH

CM 3

CRN 297173-99-0  
CMF (C<sub>7</sub> H<sub>7</sub> N . C<sub>6</sub> H<sub>11</sub> N O<sub>2</sub>)<sub>x</sub>  
CCI PMS

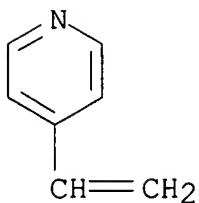
CM 4

CRN 3644-12-0  
CMF C<sub>6</sub> H<sub>11</sub> N O<sub>2</sub>



CM 5

CRN 100-43-6  
CMF C<sub>7</sub> H<sub>7</sub> N



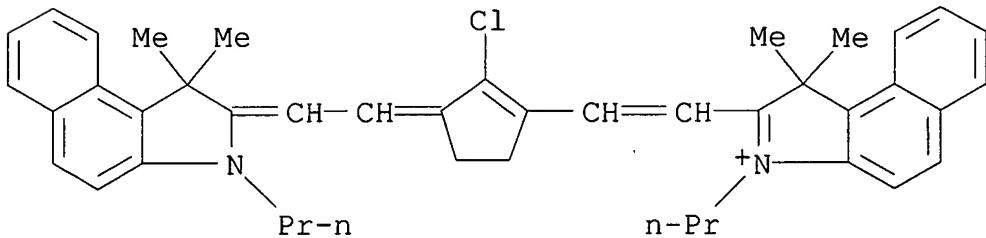
RN 297174-09-5 HCA

CN 1H-Benz[e]indolium, 2-[2-[2-chloro-3-[(1,3-dihydro-1,1-dimethyl-3-propyl-2H-benz[e]indol-2-ylidene)ethylidene]-1-cyclopenten-1-yl]ethenyl]-1,1-dimethyl-3-propyl-, chloride, compd. with 4-ethenylpyridine polymer with N-(methoxymethyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 297174-08-4

CMF C43 H46 Cl N2 . Cl

● Cl<sup>-</sup>

CM 2

CRN 297173-99-0

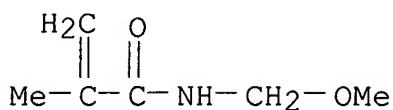
CMF (C7 H7 N . C6 H11 N O2)x

CCI PMS

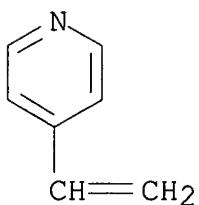
CM 3

CRN 3644-12-0

CMF C6 H11 N O2



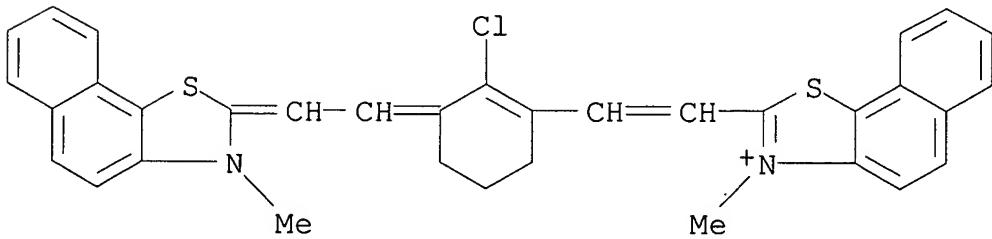
CM 4

CRN 100-43-6  
CMF C7 H7 N

RN 297174-11-9 HCA

CN Naphtho[2,1-d]thiazolium, 2-[2-[2-chloro-3-[(3-methylnaphtho[2,1-d]thiazol-2(3H)-ylidene)ethylidene]-1-cyclohexen-1-yl]ethenyl]-3-methyl-, chloride, compd. with 4-ethenylpyridine polymer with N-(methoxymethyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 297174-10-8  
CMF C34 H28 Cl N2 S2 . Cl

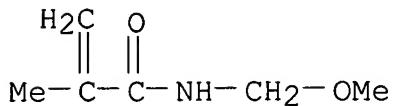
CM 2

CRN 297173-99-0

CMF (C7 H7 N . C6 H11 N O2)x  
 CCI PMS

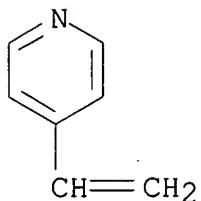
CM 3

CRN 3644-12-0  
 CMF C6 H11 N O2



CM 4

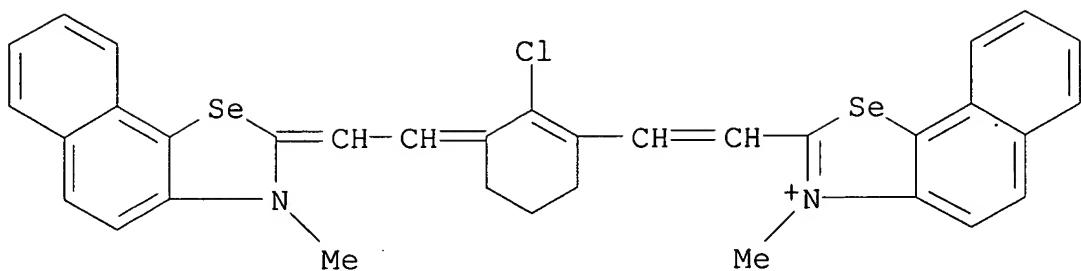
CRN 100-43-6  
 CMF C7 H7 N



RN 297174-13-1 HCA  
 CN Naphtho[2,1-d]selenazolium, 2-[2-[2-chloro-3-[(3-methylnaphtho[2,1-d]selenazol-2(3H)-ylidene)ethylidene]-1-cyclohexen-1-yl]ethenyl]-3-methyl-, chloride, compd. with 4-ethenylpyridine polymer with N-(methoxymethyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 297174-12-0  
 CMF C34 H28 Cl N2 Se2 . Cl



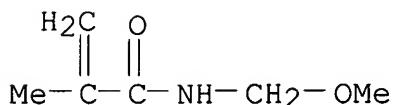
● Cl<sup>-</sup>

CM 2

CRN 297173-99-0  
 CMF (C<sub>7</sub> H<sub>7</sub> N . C<sub>6</sub> H<sub>11</sub> N O<sub>2</sub>)<sub>x</sub>  
 CCI PMS

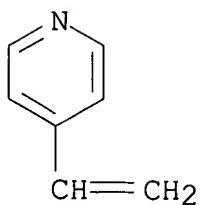
CM 3

CRN 3644-12-0  
 CMF C<sub>6</sub> H<sub>11</sub> N O<sub>2</sub>



CM 4

CRN 100-43-6  
 CMF C<sub>7</sub> H<sub>7</sub> N



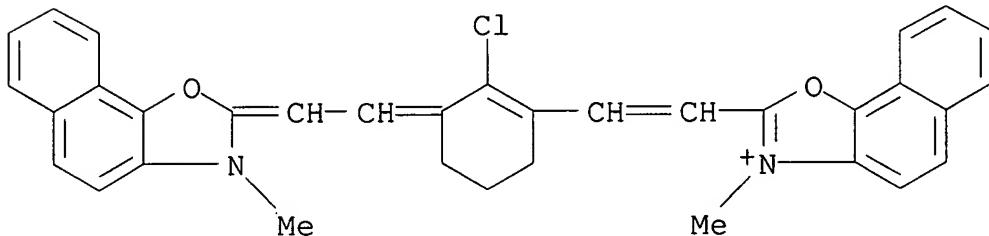
RN 297174-15-3 HCA  
 CN Naphth[2,1-d]oxazolium, 2-[2-[2-chloro-3-[ (3-methylnaphth[2,1-

d]oxazol-2(3H)-ylidene)ethylidene]-1-cyclohexen-1-yl]ethenyl]-3-methyl-, chloride, compd. with 4-ethenylpyridine polymer with N-(methoxymethyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 297174-14-2

CMF C34 H28 Cl N2 O2 . Cl



● Cl-

CM 2

CRN 297173-99-0

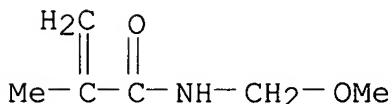
CMF (C7 H7 N . C6 H11 N O2)x

CCI PMS

CM 3

CRN 3644-12-0

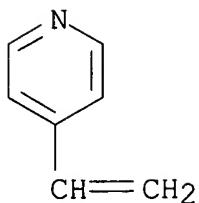
CMF C6 H11 N O2



CM 4

CRN 100-43-6

CMF C7 H7 N



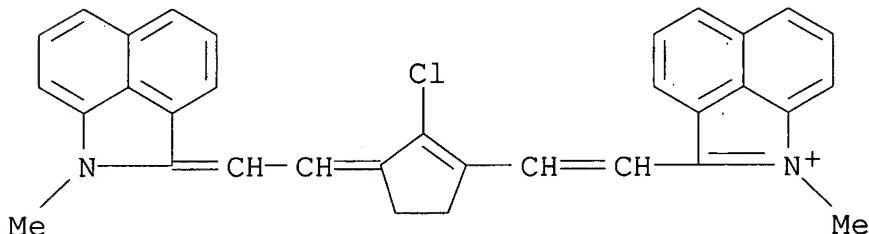
RN 297174-17-5 HCA

CN Benz[cd]indolium, 2-[2-[2-chloro-3-[(1-methylbenz[cd]indol-2(1H)-ylidene)ethylidene]-1-cyclopenten-1-yl]ethenyl]-1-methyl-, chloride, compd. with 4-ethenylpyridine polymer with N-(methoxymethyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 297174-16-4

CMF C33 H26 Cl N2 . Cl



● Cl-

CM 2

CRN 297173-99-0

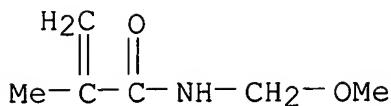
CMF (C7 H7 N . C6 H11 N O2)x

CCI PMS

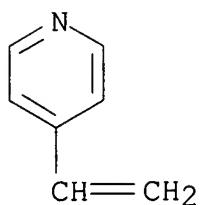
CM 3

CRN 3644-12-0

CMF C6 H11 N O2

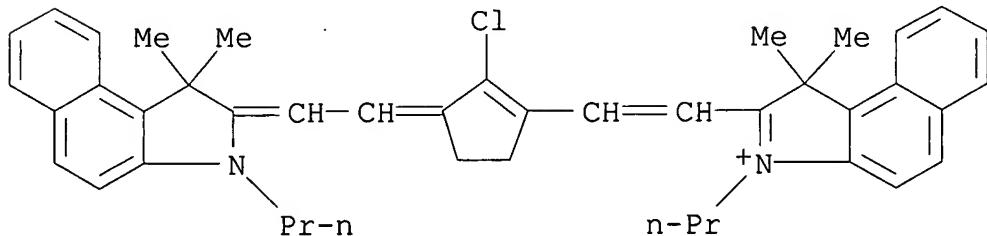


CM 4

CRN 100-43-6  
CMF C7 H7 N

RN 297174-20-0 HCA  
 CN 1H-Benz[e]indolium, 2-[2-[2-chloro-3-[(1,3-dihydro-1,1-dimethyl-3-propyl-2H-benz[e]indol-2-ylidene)ethylidene]-1-cyclopenten-1-yl]ethenyl]-1,1-dimethyl-3-propyl-, chloride, compd. with butyl 2-methyl-2-propenoate polymer with 2-(dimethylamino)ethyl 2-methyl-2-propenoate and N-(methoxymethyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

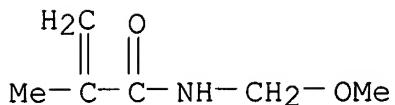
CRN 297174-08-4  
CMF C43 H46 Cl N2 . Cl● Cl<sup>-</sup>

CM 2

CRN 297174-19-7  
 CMF (C8 H15 N O2 . C8 H14 O2 . C6 H11 N O2)x  
 CCI PMS

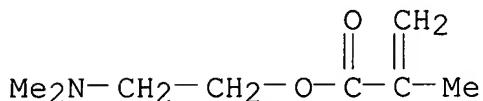
CM 3

CRN 3644-12-0  
 CMF C6 H11 N O2



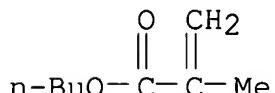
CM 4

CRN 2867-47-2  
 CMF C8 H15 N O2



CM 5

CRN 97-88-1  
 CMF C8 H14 O2



IC ICM C08G073-00

INCL 528422000

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)

IT Coating materials

Imaging

Lithographic plates

**Photoresists**

Printed circuit boards

Sensors

(prepn. of chem. sensor for measuring electrode cond. in direct

IT digital laser imaging)  
 26355-01-1, Methyl methacrylate-2-hydroxyethyl methacrylate copolymer **28015-39-6**, Methyl methacrylate-N-(methoxymethyl)methacrylamide copolymer 139301-16-9  
 (prepn. of **neg.** thermal printing plate for direct digital laser imaging using)

IT 9016-83-5DP, SD 140A, ethers with cyanine dyes 110123-09-6DP,  
 ethers with cyanine dyes 134127-48-3DP, ethers with hydroxy-contg. polymers 247248-90-4DP, ethers with hydroxy-contg. polymers  
**297174-00-6P 297174-03-9P 297174-06-2P**  
**297174-07-3P 297174-09-5P 297174-11-9P**  
**297174-13-1P 297174-15-3P 297174-17-5P**  
 297174-18-6P **297174-20-0P** 297752-34-2DP, ethers with cyanine dyes  
 (synthesis of near-IR absorption polymer thermal coatings for direct digital imaging by laser)

L46 ANSWER 6 OF 12 HCA COPYRIGHT 2005 ACS on STN  
 132:187644 Polymer, chemically amplified **negative-working resist** containing same, and **resist**  
 pattern formation. Iwasa, Shigeyuki; Maeda, Katsumi; Nakano, Kaichiro; Hasegawa, Etsuo (NEC Corp., Japan). Jpn. Kokai Tokkyo Koho JP 2000063433 A2 20000229, 35 pp. (Japanese). CODEN: JKXXAF.  
 APPLICATION: JP 1998-229154 19980813.

AB The title polymer has the general formula  
 $[\text{CH}_2\text{CR}_1(\text{CO}_2\text{R}_2\text{CO}_2\text{H})]^x[\text{CH}_2\text{CR}_5(\text{CONHCH}_2\text{OR}_6)]^z$  (I),  
 $[\text{CH}_2\text{CR}_3(\text{CO}_2\text{R}_4\text{OH})]^y[\text{CH}_2\text{CR}_5(\text{CONHCH}_2\text{OR}_6)]^z$  (II) or  
 $[\text{CH}_2\text{CR}_1(\text{CO}_2\text{R}_2\text{CO}_2\text{H})]^x[\text{CH}_2\text{CR}_3(\text{CO}_2\text{R}_4\text{OH})]^y[\text{CH}_2\text{C R}_5(\text{CONHCH}_2\text{OR}_6)]^z$  (III)  
 (R<sub>1</sub>, R<sub>3</sub>, R<sub>5</sub> = H or Me; R<sub>2</sub>, R<sub>4</sub> = C<sub>7-18</sub> alkylene having a cross-linked cyclic hydrocarbon group; R<sub>6</sub> = H or C<sub>1-12</sub> alkyl; x + z = 1, 0 < x < 1, and 0 < z < 1 in I; y + z = 1, 0 < y < 1, and 0 < z < 1 in II; x + y + z = 1, 0 < x < 1, 0 < y < 1, and 0 < z < 1 in III) and a wt. av. mol. wt. of 1000-500,000. The title **resist** comprises the polymer and a photoacid generator and is coated on a substrate, patternwise exposed to light of wavelength 180-220 nm, heat-treated, and developed to form a **resist** pattern. The polymer shows high transparency toward short wavelength light of  $\lambda \text{toreq} 220$  nm such as ArF excimer laser beams and improved dry etch resistance.

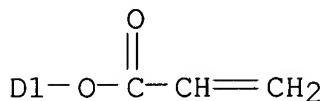
IT **259528-63-7P 259528-65-9P 259528-66-0P**  
**259528-67-1P**  
 (chem. amplification-type **photoresist** contg. acrylic polymer and photoacid generator)

RN 259528-63-7 HCA

CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or 7)-[(1-oxo-2-propenyl)oxy]-, polymer with N-(hydroxymethyl)-2-propenamide and octahydrohydroxy-4,7-methano-1H-inden-1(or 2)-yl 2-propenoate (9CI) (CA INDEX NAME)

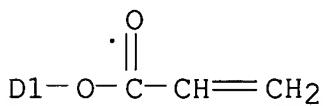
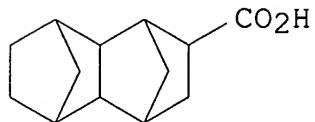
CM 1

CRN 217654-90-5  
 CMF C13 H18 O3  
 CCI IDS



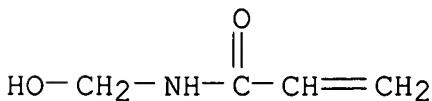
CM 2

CRN 195398-52-8  
 CMF C16 H20 O4  
 CCI IDS



CM 3

CRN 924-42-5  
 CMF C4 H7 N O2



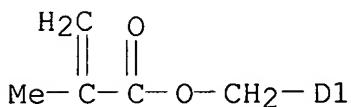
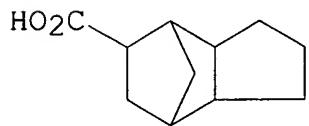
RN 259528-65-9 HCA  
 CN 4,7-Methano-1H-indene-5-carboxylic acid, octahydro[[(2-methyl-1-oxo-2-propenyl)oxy]methyl]-, polymer with N-(hydroxymethyl)-2-propenamide and octahydro-5(or 6)-hydroxy-4,7-methano-1H-inden-1(2 or 3)-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 259528-64-8

CMF C16 H22 O4

CCI IDS

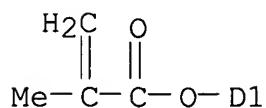
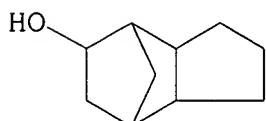


CM 2

CRN 220138-05-6

CMF C14 H20 O3

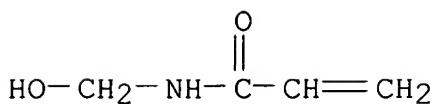
CCI IDS



CM 3

CRN 924-42-5

CMF C4 H7 N O2



RN 259528-66-0 HCA

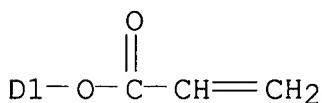
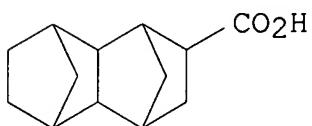
CN 1,4:5,8-Dimethanonaphthalene-2-carboxylic acid, decahydro-6(or 7)-[(1-oxo-2-propenyl)oxy]-, polymer with N-(methoxymethyl)-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 195398-52-8

CMF C16 H20 O4

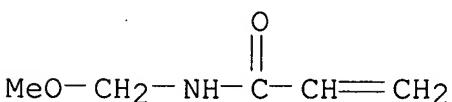
CCI IDS



CM 2

CRN 3644-11-9

CMF C5 H9 N O2



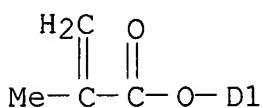
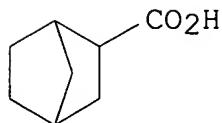
RN 259528-67-1 HCA

CN Bicyclo[2.2.1]heptane-2-carboxylic acid, 5(or 6)-[(2-methyl-1-oxo-2-propenyl)oxy]-, polymer with N-(methoxymethyl)-2-propenamide (9CI) (CA INDEX NAME)

CM 1

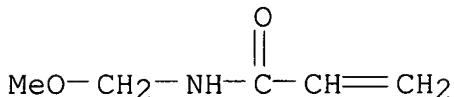
CRN 210641-03-5

CMF C12 H16 O4  
CCI IDS



CM 2

CRN 3644-11-9  
CMF C5 H9 N O2



IC ICM C08F020-18  
ICS C08F020-28; C08F020-36; C08L033-06; C08L033-26; G03F007-038;  
H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)  
Section cross-reference(s): 38

ST chem amplification **resist** photoacid generator; alicyclic  
acrylic polymer **neg photoresist**

IT **Negative photoresists**  
(chem. amplification-type **photoresist** contg. acrylic  
polymer and photoacid generator)

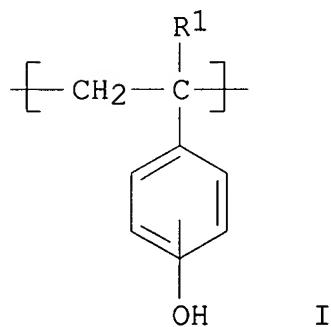
IT 259528-63-7P 259528-65-9P 259528-66-0P  
259528-67-1P  
(chem. amplification-type **photoresist** contg. acrylic  
polymer and photoacid generator)

IT 84563-54-2 171292-12-9  
(chem. amplification-type **photoresist** contg. acrylic  
polymer and photoacid generator)

L46 ANSWER 7 QF 12 HCA COPYRIGHT 2005 ACS on STN  
128:121743 **Negative-working** radiation-sensitive  
**resist** composition. Iwanaga, Shinichirou; Ikesaki, Yoji;

Ota, Yoshiji; Tanabe, Takaki (Japan Synthetic Rubber Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 09325492 A2 19971216 Heisei, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-143186 19960605.

GI



AB The title resin compn. contains an alkali-sol. copolymer having repeating units I and  $\text{CH}_2\text{CR}_2[\text{CONHCH}_2\text{O}(\text{R}_3\text{O})\text{nR}_4]$  ( $\text{R}_1, \text{R}_2 = \text{H or Me}; \text{R}_3 = \text{C1-4 alkylene, C2-4 alkylidene}; \text{R}_4 = \text{H, C1-4 (halogenated) alkyl}; \text{n} = 0-5$ ) and a radiation-sensitive acid-generating agent. The compn. adaptable to far IR rays, x-ray, and short wavelength radiations shows high photosensitivity, developability, and dimensional stability and provides high resoln. **resist** patterns with good profile.

IT **201736-77-8DP**, p-Acetoxystyrene-N-methylolacrylamide copolymer, hydrolyzed **201736-80-3P**, 2-Hydroxyethyl acrylate-p-isopropenylphenol-N-methoxymethylacrylamide copolymer **201736-83-6P**, 2-Hydroxyethyl acrylate-p-isopropenylphenol-N-methoxymethylacrylamide-styrene copolymer **201736-86-9P**, p-Hydroxystyrene-N-methoxymethylacrylamide copolymer (**resist** compn. contg. alkali-sol. copolymer comprising hydroxystyrene and acrylamide deriv.)

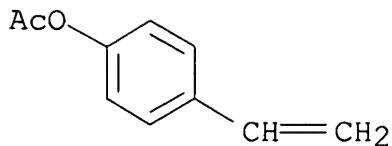
RN 201736-77-8 HCA

CN 2-Propenamide, N-(hydroxymethyl)-, polymer with 4-ethenylphenyl acetate (9CI) (CA INDEX NAME)

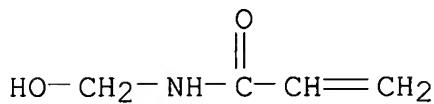
CM 1

CRN 2628-16-2

CMF C10 H10 O2



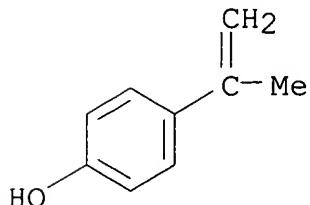
CM 2

CRN 924-42-5  
CMF C4 H7 N O2

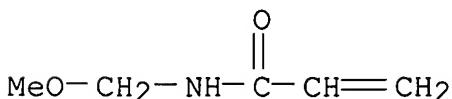
RN 201736-80-3 HCA

CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with  
N-(methoxymethyl)-2-propenamide and 4-(1-methylethenyl)phenol (9CI)  
(CA INDEX NAME)

CM 1

CRN 4286-23-1  
CMF C9 H10 O

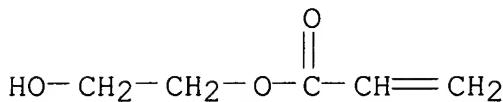
CM 2

CRN 3644-11-9  
CMF C5 H9 N O2

CM 3

CRN 818-61-1

CMF C5 H8 O3



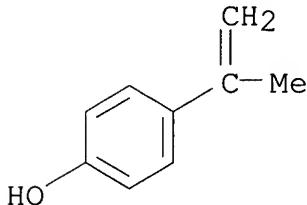
RN 201736-83-6 HCA

CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with ethenylbenzene, N-(methoxymethyl)-2-propenamide and 4-(1-methylethenyl)phenol (9CI) (CA INDEX NAME)

CM 1

CRN 4286-23-1

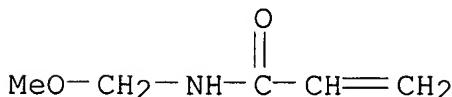
CMF C9 H10 O



CM 2

CRN 3644-11-9

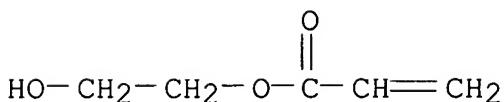
CMF C5 H9 N O2



CM 3

CRN 818-61-1

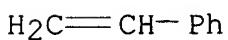
CMF C5 H8 O3



CM 4

CRN 100-42-5

CMF C8 H8



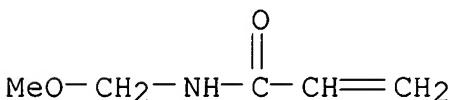
RN 201736-86-9 HCA

CN 2-Propenamide, N-(methoxymethyl)-, polymer with 4-ethenylphenol  
(9CI) (CA INDEX NAME)

CM 1

CRN 3644-11-9

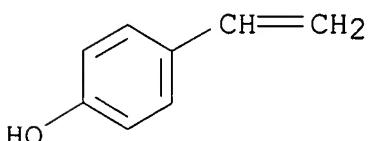
CMF C5 H9 N O2



CM 2

CRN 2628-17-3

CMF C8 H8 O



IC ICM G03F007-038

ICS G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)

Section cross-reference(s): 37

ST hydroxystyrene acrylamide copolymer radiation sensitive  
**resist**

IT **Resists**

(**neg.-working** radiation-sensitive;  
**resist** compn. contg. alkali-sol. copolymer comprising  
 hydroxystyrene and acrylamide deriv.)

IT **201736-77-8DP**, p-Acetoxystyrene-N-methylolacrylamide  
 copolymer, hydrolyzed **201736-80-3P**, 2-Hydroxyethyl  
 acrylate-p-isopropenylphenol-N-methoxymethylacrylamide copolymer  
**201736-83-6P**, 2-Hydroxyethyl acrylate-p-isopropenylphenol-N-  
 methoxymethylacrylamide-styrene copolymer **201736-86-9P**,  
 p-Hydroxystyrene-N-methoxymethylacrylamide copolymer  
 (**resist** compn. contg. alkali-sol. copolymer comprising  
 hydroxystyrene and acrylamide deriv.)

L46 ANSWER 8 OF 12 HCA COPYRIGHT 2005 ACS on STN

116:13375 Heat-resistant photosensitive resin compositions. Tazawa,  
 Kenji; Sato, Hiromitsu (Tokyo Ohka Kogyo Co., Ltd., Japan). Jpn.  
 Kokai Tokkyo Koho JP 03137648 A2 19910612 Heisei, 9 pp. (Japanese).  
 CODEN: JKXXAF. APPLICATION: JP 1989-274996 19891024.

AB The title compns consist of (a) copolymers of compds. CH<sub>2</sub>:CXCONHYOZ  
 (X = H, Me; Y = C<sub>1</sub>-4 alkylene; Z = C<sub>1</sub>-4 alkyl, benzyl) 10-30,  
 carboxy-contg. ethylenic compd. 10-30, and copolymerizable ethylenic  
 compd. 40-80 wt.%; (b) epoxylated triazine, (c) photopolymg.  
 monomer; (d) photopolymn. initiator; and (e) solid powder. These  
**photoresists** provide patterns with high heat resistance,  
 layer adhesion, and resistance to chems. and useful as solder  
**resists**, etching **resists**, and plating  
**resists**. Thus, a copolymer was prep'd. by reaction of Me  
 methacrylate 40, styrene 20, methacrylic acid 20,  
 N-isobutoxymethylacrylamide 20, and radical polymn. initiator 2  
 parts. A compn. contg. this copolymer 100, tri(2,3-  
 epoxypropyl)isocyanurate 40, trimethylolpropane triacrylate 30,  
 diethylthioxanthone 3, Irgacure-651 4, Aerosil #200 6, and silicone  
 antifoaming agent 2 parts was applied on 1 side of a Cu-coated  
 circuit board, dried, applied on the other side, dried and cooled.  
 Exposure to UV through **neg.** mask, development with 1.5%  
 Na<sub>2</sub>CO<sub>3</sub>, and curing at 140.degree. for 60 min gave solder  
**resist** pattern, which showed high resistance to immersion in  
 solder bath or boiling CH<sub>2</sub>Cl<sub>2</sub>.

IT **118212-57-0**

(**photoresists** contg., for printed circuit fabrication)

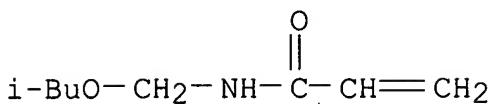
RN 118212-57-0 HCA

CN 2-Propenoic acid, 2-methyl-, polymer with ethenylbenzene, methyl  
 2-methyl-2-propenoate and N-[(2-methylpropoxy)methyl]-2-propenamide  
 (9CI) (CA INDEX NAME)

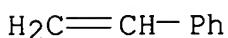
CM 1

CRN 16669-59-3

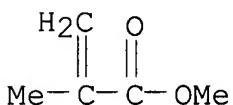
CMF C8 H15 N O2



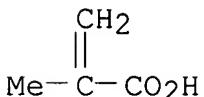
CM 2

CRN 100-42-5  
CMF C8 H8

CM 3

CRN 80-62-6  
CMF C5 H8 O2

CM 4

CRN 79-41-4  
CMF C4 H6 O2

IC ICM G03F007-033  
ICS G03F007-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)  
 Section cross-reference(s): 38  
 ST **photoresist** printed circuit fabrication; solder  
**resist** pattern **photoresist**  
 IT **Resists**  
 (photo-, for printed circuit fabrication, copolymer for)  
 IT Electric circuits

(printed, **photoresists** for fabrication of)  
 IT 2451-62-9 **118212-57-0**  
 (**photoresists** contg., for printed circuit fabrication)

L46 ANSWER 9 OF 12 HCA COPYRIGHT 2005 ACS on STN  
 113:68390 Radiation-hardenable mixture and **negative-working** radiation-sensitive **resist** material for high energy radiation therefrom. Dammel, Ralph; Doessel, Karl Friedrich; Lingnau, Juergen; Theis, Juergen (Hoechst A.-G., Fed. Rep. Ger.). Ger. Offen. DE 3821584 A1 19891228, 9 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1988-3821584 19880625.

AB A **neg.-working** radiation-sensitive **resist** material having a high sensitivity and improved resoln. and also a high etch resistance after development is composed of an acid-forming compd. that contains an arom.-bound Cl or Br atom and shows a pKa value of  $\text{ltoreq.} 12$  and a substance that is acid hardenable. The material is esp. useful for forming **resist** patterns by electron beams or x-rays. Thus, a compn. that gave defect-free images upon imagewise exposure with x rays contained a cresol-HCHO novolak, tetrabromo-Bisphenol A, Cymel 116 (polyalkoxymethylmelamine), and propylene glycol Me ether acetate.

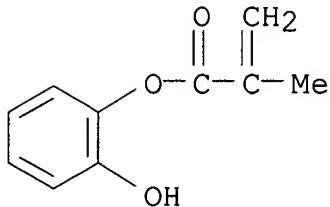
IT **128295-95-4**  
 (**neg.-working** radiation-hardenable **resists** contg. acid-forming compd. and)

RN 128295-95-4 HCA

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyphenyl ester, polymer with N-(methoxymethyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

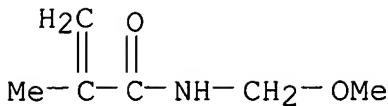
CM 1

CRN 29925-70-0  
 CMF C10 H10 O3



CM 2

CRN 3644-12-0  
 CMF C6 H11 N O2



IC ICM G03F007-10  
ICS G03C001-68  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
ST **neg resist** x ray electron; acid former  
**neg resist**; hardenable compd **neg resist**  
IT Phenolic resins, uses and miscellaneous  
(**neg.-working** radiation-sensitive  
**resists** contg. acid-forming compd. and acid-hardenable material and)  
IT **Resists**  
(electron-beam, **neg.-working**, contg.  
acid-forming compd. and acid-hardenable material)  
IT **Resists**  
(x-ray, **neg.-working**, contg. acid-forming compd. and acid-hardenable material)  
IT 9003-08-1 **128295-95-4** 128427-92-9  
(**neg.-working** radiation-hardenable  
**resists** contg. acid-forming compd. and)  
IT 9016-83-5, Cresol-formaldehyde copolymer  
(**neg.-working** radiation-sensitive  
**resists** contg. acid-forming compd. and acid-hardenable compd. and)  
IT 79-94-7, Tetrabromobisphenol A 79-95-8  
(**neg.-working** radiation-sensitive  
**resists** contg. acid-hardenable compd. and)  
IT 122288-15-7P, 1,1,1-Tris(3,5-dibromo-4-hydroxyphenyl)ethane  
(prepn. and **neg.-working** radiation-sensitive  
**resists** contg. acid-hardenable compd. and)

L46 ANSWER 10 OF 12 HCA COPYRIGHT 2005 ACS on STN  
111:244323 Radiation-sensitive **resist** compositions containing modified polyurethanes. Noguchi, Hiromichi (Canon K. K., Japan). Eur. Pat. Appl. EP 307921 A2 19890322, 12 pp. DESIGNATED STATES: R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1988-115156 19880915. PRIORITY: JP 1987-229492 19870916; JP 1988-159079 19880629.

AB Title compns. useful as protective **resists** for printed circuit board manuf. comprise a graft acrylic copolymer having a no.-av. mol. wt. (.hivin.Mn) .gtoreq.5000 and wt.-av. mol. wt. (.hivin.Mw) .ltoreq.50,000, a linear acrylic polymer having

.hivin.Mn .gtoreq.5000, .hivin.Mw .ltoreq.350,000, and glass transition temp. .gtoreq.60.degree., an acrylate ester of polyurethane, and a photoinitiator. Thus, 2-hydroxypropyl methacrylate-butoxymethylacrylamide-Me methacrylate graft copolymer (.hivin.Mn 7000, .hivin.Mw 150,000), linear Me methacrylate-iso-Bu methacrylate-butoxymethylacrylamide copolymer (.hivin.Mn 150,000, .hivin.Mw 320,000), HMDI-propylene oxide-THF copolymer 2-hydroxyethyl acrylate ester, benzophenone, p-diethylaminobenzophenone, crystal violet, MEK, and MIBK were mixed, applied to a PET film to a dry thickness of 25 .mu.m, laminated onto a Cu surface of a copper-clad substrate, and irradiated with UV light through a **neg.** mask to form a **resist** on the laminate. Removing the PET film, developing with CC13CH3, and etching with FeCl3 soln. produced conductor circuits with precision.

IT **123785-99-9D**, crosslinked with linear polyacrylate and polyurethane acrylic esters **123786-00-5D**, crosslinked with graft acrylate polymers and polyurethane acrylic esters **123786-01-6D**, crosslinked with linear polyacrylate and polyurethane acrylic esters **123786-02-7D**, crosslinked with graft acrylate polymers and polyurethane acrylic esters (**photoresists**, UV-sensitive, for printed circuit board manuf.)

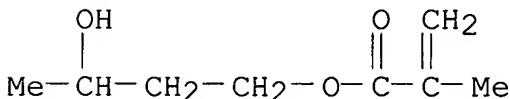
RN 123785-99-9 HCA

CN 2-Propenoic acid, 2-methyl-, 3-hydroxybutyl ester, polymer with N-(hydroxymethyl)-2-propenamide, methyl 2-methyl-2-propenoate and oxiranylmethyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

CM 1

CRN 70103-32-1

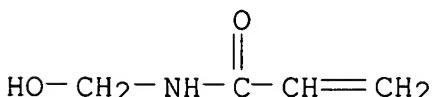
CMF C8 H14 O3



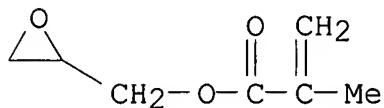
CM 2

CRN 924-42-5

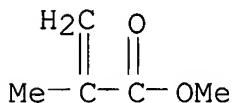
CMF C4 H7 N O2



CM 3

CRN 106-91-2  
CMF C7 H10 O3

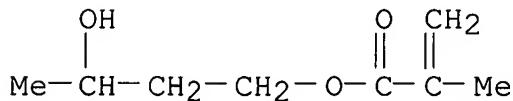
CM 4

CRN 80-62-6  
CMF C5 H8 O2

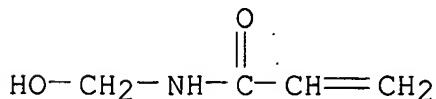
RN 123786-00-5 HCA

CN 2-Propenoic acid, 2-methyl-, 3-hydroxybutyl ester, polymer with  
N-(hydroxymethyl)-2-propenamide and methyl 2-methyl-2-propenoate  
(9CI) (CA INDEX NAME)

CM 1

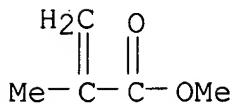
CRN 70103-32-1  
CMF C8 H14 O3

CM 2

CRN 924-42-5  
CMF C4 H7 N O2

CM 3

CRN 80-62-6  
CMF C5 H8 O2

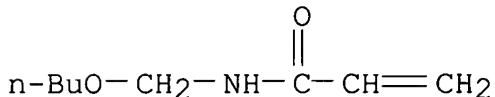


RN 123786-01-6 HCA

CN 2-Propenoic acid, 2-methyl-, 2-hydroxypropyl ester, polymer with N-(butoxymethyl)-2-propenamide and methyl 2-methyl-2-propenoate, graft (9CI) (CA INDEX NAME)

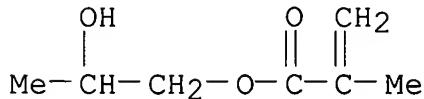
CM 1

CRN 1852-16-0  
CMF C8 H15 N 02



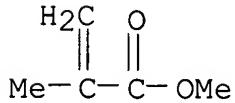
CM 2

CRN 923-26-2  
CMF C7 H12 03



CM 3

CRN 80-62-6  
CMF C5 H8 O2



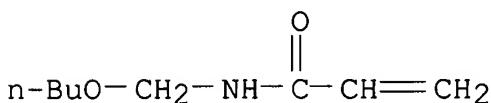
RN 123786-02-7 HCA

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
N-(butoxymethyl)-2-propenamide and 2-methylpropyl  
2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 1852-16-0

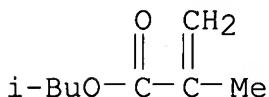
CMF C8 H15 N O2



CM 2

CRN 97-86-9

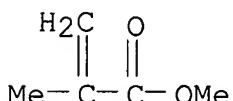
CMF C8 H14 O2



CM 3

CRN 80-62-6

CMF C5 H8 O2



IC ICM C08L051-00

ICS C08L075-04; C08F299-06; G03F007-10

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)

Section cross-reference(s): 38, 42

ST printed circuit board **photoresist**; graft polyacrylate  
**photoresist** circuit board; linear polyacrylate  
**photoresist** circuit board; urethane acrylate  
**photoresist** circuit board; radiation curable  
**photoresist** circuit board; UV curable **photoresist**  
circuit board

IT Urethane polymers, compounds  
 (acrylates, **photoresists**, UV-sensitive, **neg.-working**, for printed circuit board manuf.)

IT **Resists**  
 (**photo-**, UV, **neg.-working**,  
 crosslinked graft acrylate polymers-linear acrylate  
 polymer-polyurethane acrylate esters)

IT Electric circuits  
 (printed, manuf. of, **photoresist** compn. for)

IT 818-61-1D, esters with hydroxy-contg. polyurethane, crosslinked with  
 graft acrylate polymers and linear acrylate polymers  
**123785-99-9D**, crosslinked with linear polyacrylate and  
 polyurethane acrylic esters **123786-00-5D**, crosslinked with  
 graft acrylate polymers and polyurethane acrylic esters  
**123786-01-6D**, crosslinked with linear polyacrylate and  
 polyurethane acrylic esters **123786-02-7D**, crosslinked with  
 graft acrylate polymers and polyurethane acrylic esters  
 123786-03-8D, esters with hydroxyethyl acrylate-crosslinked with  
 graft polyacrylate and linear acrylate polymers 123879-90-3D,  
 esters with 2-hydroxyethyl acrylate-crosslinked with graft  
 polyacrylate and linear acrylate polymers  
 (**photoresists**, UV-sensitive, for printed circuit board  
 manuf.)

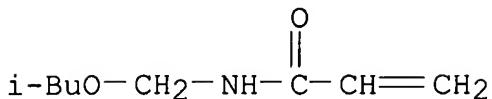
L46 ANSWER 11 OF 12 HCA COPYRIGHT 2005 ACS on STN  
 95:71076 Dichromated hydrophilic colloid-latex copolymer compositions.  
 Sutton, Richard C.; Martin, Thomas W. (Eastman Kodak Co., USA).  
 U.S. US 4264706 19810428, 13 pp. (English). CODEN: USXXAM.  
 APPLICATION: US 1980-129523 19800312.

AB Dichromated gelatin **photoresists** of the **neg.-working** type can be significantly improved by the incorporation therein of latex dispersions composed of copolymer particles which are derived from monomers which form water-insol. homopolymers and a small amt. of monomers which form water-sol. homopolymers. Thus, a **photoresist** compn. contg. 20% aq. gelatin 10, an acrylamide-styrene copolymer (10:90) latex (10% solids) 2, and 20% ammonium dichromate 2 g showed a resoln. of 230 lines/mm, good adhesion to the polyester support, excellent resistance to dye diffusion, and good washoff.

IT **78537-70-9**  
 (**photoresists** contg. ammonium dichromate, gelatin, and latex dispersions of, with improved properties)

RN 78537-70-9 HCA  
 CN 2-Propenamide, N-[(2-methylpropoxy)methyl]-, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CRN 16669-59-3  
 CMF C8 H15 N O2



CM 2

CRN 100-42-5  
 CMF C8 H8

H<sub>2</sub>C=CH—Ph

IC G03C005-00; B03F005-00

INCL 430274000

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic Processes)

Section cross-reference(s): 76

ST dichromate gelatin **photoresist** polymer latex;  
**resist** photo dichromated gelatin; solid state photoimaging color filter; array color filter imaging

IT Gelatins, uses and miscellaneous

(**photoresists** compns. contg. dichromate, latex copolymer dispersions, and, with improved properties)

IT **Resists**

(**photo-**, **neg.-working**, contg. dichromated gelatin and latex copolymer dispersions, for improved properties)

IT Semiconductor devices

(radiation-sensitive, fabrication of color filter arrays for, dichromated gelatin **photoresists** in)

IT 24981-13-3 **78537-70-9**

(**photoresists** contg. ammonium dichromate, gelatin, and latex dispersions of, with improved properties)

IT 7789-09-5

(**photoresists** contg. gelatin, latex copolymer dispersion, and, with improved properties)

L46 ANSWER 12 OF 12 HCA COPYRIGHT 2005 ACS on STN

84:172183 **Photoresist** composition. Tsukada, Katsushige; Isobe, Asao; Ishimaru, Toshiaki; Hayashi, Nobuyuki; Abo, Masahiro (Hitachi Chemical Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 50144429 19751120 Showa, 6 pp. (Japanese). CODEN: JKXXAF.  
 APPLICATION: JP 1974-51111 19740510.

AB **Photoresist** compns. useful in manufg. printed circuits contain a photopolymerizable compd. contg. .gt;req.2 terminal ethylene groups, a linear polymer contg. an N-alkoxymethylcarbamoyl group in the side chain, a photosensitizer, and a compd. contg. .gt;req.2 epoxy groups. Thus, a photosensitive compn. contg. a N-butoxymethylacrylamide-H<sub>2</sub>CCMeCO<sub>2</sub>Me-styrene (20:60:20) terpolymer 60, pentaerythritol triacrylate 25,, an epoxy resin (ECN-1280, Chiba Co.) 15, BF<sub>3</sub>.H<sub>2</sub>NET 1.0, benzophenone 2.5, Michler's ketone 0.5, p-MeOC<sub>6</sub>H<sub>4</sub>OH 0.6, MeCOEt 150, and BuOH 50 parts was coated on a Cu-clad laminated plate, dried at room temp. for 10 min and then at 80.degree. for 10 min. The plate was exposed through a **neg** mask for 2 min with a 3-kW Hg lamp (4000 .mu.W/cm<sup>2</sup>), heated for 5 min at 80.degree., cooled, sprayed for 1 min with CH<sub>3</sub>CCl<sub>3</sub> and then baked for 2 hr at 150.degree.. The **resist** film had the image of the **neg**. mask, and was highly resistant towards common org. solvents, 50% aq. H<sub>2</sub>SO<sub>4</sub>, and aq. NaOH (pH 12, 70.degree., 100 hr).

IT **59135-24-9**

(photopolymerizable compn. contg. epoxy resin and, for **photoresist**)

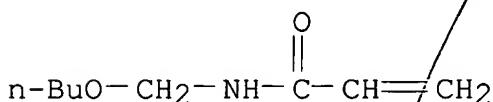
RN 59135-24-9 HCA

CN 2-Propenoic acid, methyl ester, polymer with N-(butoxymethyl)-2-propenamide and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 1852-16-0

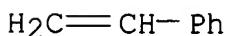
CMF C<sub>8</sub> H<sub>15</sub> N O<sub>2</sub>



CM 2

CRN 100-42-5

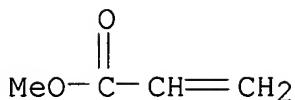
CMF C<sub>8</sub> H<sub>8</sub>



CM 3

CRN 96-33-3

CMF C<sub>4</sub> H<sub>6</sub> O<sub>2</sub>



IC G03C; G03F; B41D; H01L; C08GLK  
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic Processes)  
 Section cross-reference(s): 76  
 ST photopolymerizable acrylate copolymer **photoresist**; elec circuit acrylate copolymer **photoresist**; epoxy resin acrylate copolymer **photoresist**  
 IT **Resists**  
 (photo-, photopolymerizable compn. contg. methacrylate copolymer and epoxy resin for)  
 IT Epoxy resins  
 (**photoresists** compn. contg. methacrylate copolymer and, for elec. circuits)  
 IT Electric circuits  
 (printed, **photoresists** compn. contg. methacrylate copolymer and epoxy resin for)  
 IT **59135-24-9**  
 (photopolymerizable compn. contg. epoxy resin and, for **photoresist**)  
 IT 3524-68-3  
 (photopolymerizable compn. contg. epoxy resin, methacrylate copolymer and, for **photoresist**)  
 IT 75-23-0 90-94-8 119-61-9, uses and miscellaneous 150-76-5  
 (photopolymerizable compn. contg. methacrylate copolymer, epoxy resin and, for **photoresist**)

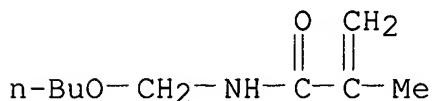
=> d 147 1-18 cbib abs hitstr hitind

L47 ANSWER 1 OF 18 HCA COPYRIGHT 2005 ACS on STN  
 141:358182 Dye-containing curable composition for manufacture of color filters. Tan, Shiro (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2004286809 A2 200401014, 38 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2003-75633 20030319.  
 AB Title compn. comprises (A) an acid group-contg. alkali-sol. binder, (B) an org. solvent-sol. dye, (C) a radiation-sensitive compd., and (D) a polymeric surfactant contg. fluorine and/or silicon atoms, where the binder contains structural units derived from N-substituted (meth)acrylamides.  
 IT 773897-96-4 773897-97-5 773897-98-6  
 773898-00-3  
 (dye-contg. curable compn. for manuf. of color filters)

RN 773897-96-4 HCA  
 CN 2-Propenoic acid, 2-methyl-, polymer with N-(butoxymethyl)-2-methyl-  
 2-propenamide (9CI) (CA INDEX NAME)

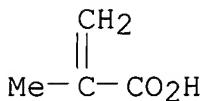
CM 1

CRN 5153-77-5  
 CMF C9 H17 N O2



CM 2

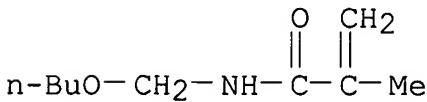
CRN 79-41-4  
 CMF C4 H6 O2



RN 773897-97-5 HCA  
 CN 2-Propenamide, N-(butoxymethyl)-2-methyl-, polymer with  
 4-ethenylphenol (9CI) (CA INDEX NAME)

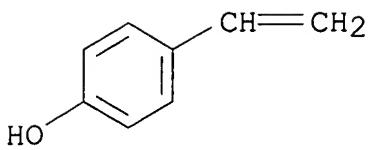
CM 1

CRN 5153-77-5  
 CMF C9 H17 N O2



CM 2

CRN 2628-17-3  
 CMF C8 H8 O



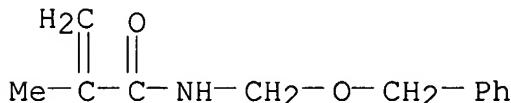
RN 773897-98-6 HCA

CN 2-Propenoic acid, 2-methyl-, polymer with 2-methyl-N-[(phenylmethoxy)methyl]-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 91640-39-0

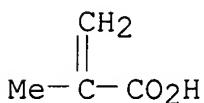
CMF C12 H15 N O2



CM 2

CRN 79-41-4

CMF C4 H6 O2



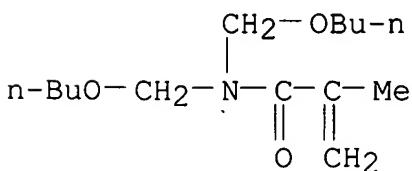
RN 773898-00-3 HCA

CN 2-Propenoic acid, 2-methyl-, polymer with N,N-bis(butoxymethyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

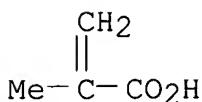
CM 1

CRN 773897-99-7

CMF C14 H27 N O3



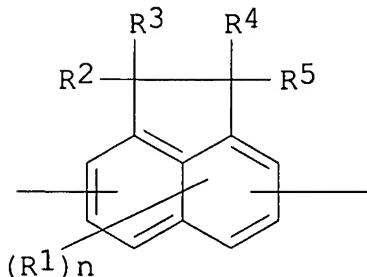
CM 2

CRN 79-41-4  
CMF C4 H6 O2

IC ICM G03F007-004  
ICS C08F220-58; G02B005-20; G03F007-033  
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)  
 ST dye **photoresist** acrylamide deriv polymer binder color  
filter; surfactant polymeric **photoresist** color filter  
 IT Optical filters  
**Photoresists**  
 (dye-contg. curable compn. for manuf. of color filters)  
 IT 105596-69-8 **773897-96-4** **773897-97-5**  
**773897-98-6** **773898-00-3** 773898-01-4  
 773898-02-5 773898-03-6  
 (dye-contg. curable compn. for manuf. of color filters)

L47 ANSWER 2 OF 18 HCA COPYRIGHT 2005 ACS on STN  
 133:11002 Acenaphthene polymer-containing composition for manufacture of  
 antireflective film. Kawaguchi, Kazuo; Saito, Akio; Ota, Yoshihisa;  
 Iwanaga, Shinichiro (JSR Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho  
 JP 2000143937 A2 20000526, 14 pp. (Japanese). CODEN: JKXXAF.  
 APPLICATION: JP 1998-325670 19981116.

GI



AB The compn. contains a polymer having a divalent acenaphthene group I  
 (R1 = monovalent atom or group; n = 0-4; R2-5 = OH, monovalent atom  
 or group) and a solvent. The compn. is useful for manuf. of

antireflective films used in photolithog. process esp. in fabrication if highly integrated circuits. The film from the compn. shows high absorbance to KrF excimer laser beam and approx. same refractive index as **resist** layers to have good antireflection characteristics.

IT **270578-41-1P 270578-42-2P 270578-43-3P**

(antireflective film contg.; acenaphthene polymer-contg. compn. for manuf. of antireflective film used in photolithog. process of IC)

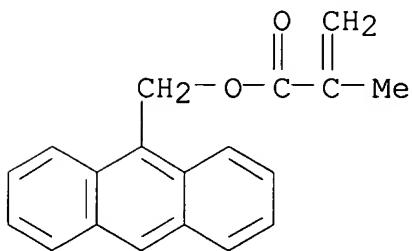
RN 270578-41-1 HCA

CN 2-Propenoic acid, 2-methyl-, 9-anthracynlmethyl ester, polymer with N-(butoxymethyl)-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 31645-35-9

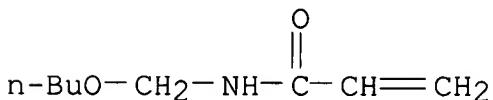
CMF C19 H16 O2



CM 2

CRN 1852-16-0

CMF C8 H15 N O2



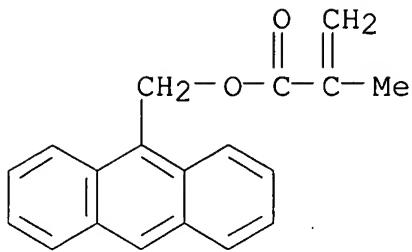
RN 270578-42-2 HCA

CN 2-Propenoic acid, 2-methyl-, 9-anthracynlmethyl ester, polymer with N-(methoxymethyl)-2-propenamide (9CI) (CA INDEX NAME)

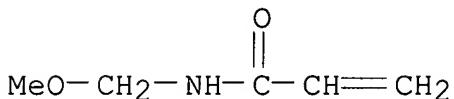
CM 1

CRN 31645-35-9

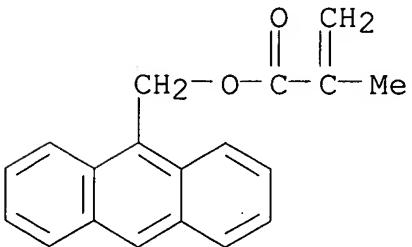
CMF C19 H16 O2



CM 2

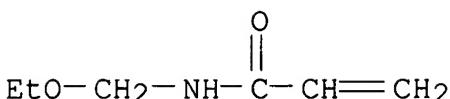
CRN 3644-11-9  
CMF C5 H9 N O2RN 270578-43-3 HCA  
CN 2-Propenoic acid, 2-methyl-, 9-anthracylmetyl ester, polymer with  
N-(ethoxymethyl)-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 31645-35-9  
CMF C19 H16 O2

CM 2

CRN 13036-41-4  
CMF C6 H11 N O2



IC ICM C08L061-18  
 ICS C08J005-18; C08L101-00; C09D133-06; C09D133-24; G03F007-11;  
 C08G010-00; C08L033-06; C08L033-24  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 Section cross-reference(s): 42, 76  
 IT **270578-41-1P 270578-42-2P 270578-43-3P**  
 270583-35-2P, Nikalac N 2702  
 (antireflective film contg.; acenaphthene polymer-contg. compn.  
 for manuf. of antireflective film used in photolithog. process of  
 IC)

L47 ANSWER 3 OF 18 HCA COPYRIGHT 2005 ACS on STN  
 131:323882 Curable colored resin composition for color display filter.  
 Hirose, Masashi; Kashiwazaki, Akio; Shirota, Katsuhiro; Nakazawa,  
 Koichiro; Yamashita, Yoshihisa; Yokoyama, Mayumi (Canon K. K.,  
 Japan). Jpn. Kokai Tokkyo Koho JP 11302548 A2 19991102 Heisei, 20  
 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-111171  
 19980421.

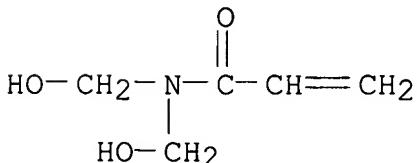
AB The invention relates to a curable colored resin compn., suited for  
 use in making a blue color filter of a color display panel, wherein  
 the blue color is produced by porphyrazine derivs. having .gtoreq.1  
 N-contg. arom. ring(s), and optionally with combination of  
 phthalocyanine derivs.

IT **176979-02-5**  
 (curable colored resin compn. for color display filter)

RN 176979-02-5 HCA  
 CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
 N,N-bis(hydroxymethyl)-2-propenamide (9CI) (CA INDEX NAME)

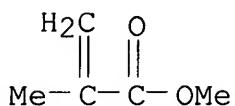
CM 1

CRN 17361-90-9  
 CMF C5 H9 N O3



CM 2

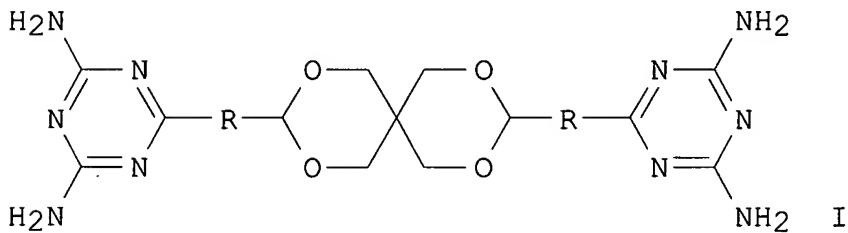
CRN 80-62-6  
CMF C5 H8 O2



IC ICM C08L101-00  
IC S C08K005-3467; C09B047-00; C09B067-22; C09D011-02; C07D487-22  
CC 42-6 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 74  
IT **Photoresists**  
(color; curable colored resin compn. for color display filter)  
IT **176979-02-5**  
(curable colored resin compn. for color display filter)

L47 ANSWER 4 OF 18 HCA COPYRIGHT 2005 ACS on STN  
125:100152 Photosolder **resist** compositions developable with  
water. Nakamura, Shigeo; Yokota, Tadahiko; Mashita, Atsushi  
(Ajinomoto KK, Japan). Jpn. Kokai Tokkyo Koho JP 08044058 A2  
19960216 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP  
1994-175497 19940727.

GI



AB The title compns. contain (A) a photosensitive oligomer prep'd. by introduction of .gtoreq.1 onium-contg. group selected from quaternary ammonium, tert-sulfonium, and quaternary phosphonium salts into the residual glycidyl groups of a compd. obtained by addn. of 0.1-0.9 equiv. unsatd. monocarboxylic acid to 1.0 equiv. glycidyl group of a polyfunctional epoxy resin, (B) a guanamine resin prep'd. by partial or whole addn. of HCHO to the amino groups

of a guanamine compd. I (R = C2-8 divalent hydrocarbon group) followed by partial or whole alkyl-etherification with a C.1toreq.4 alc. and/or a (co)polymer with wt.-av. mol. wt. having a structural unit CH<sub>2</sub>CR<sub>1</sub>(CONHCHR<sub>2</sub>OR<sub>3</sub>) (R<sub>1</sub> = H, Me; R<sub>2</sub> = H, CO<sub>2</sub>Me; R<sub>3</sub> = C1-6 hydrocarbon group), and (C) a photopolymn. initiator. The compns. are dilutable and developable with water and provide hardened products with good resistant to soft solder and Ni-plating. Thus, a solder **resist** compn. comprised a photosensitive oligomer prep'd. by reacting cresol novolak-type epoxy resin with acrylic acid and then with Me<sub>2</sub>N(CH<sub>2</sub>)<sub>2</sub>OH, CTU-100 (guanamine resin), 2-methyl-1-[4-(methylthio)phenyl]-2-morpholinopropane-1-one, and additives.

IT 65993-46-6

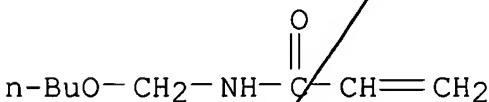
(photosolder **resists** contg. onium-contg. epoxy resins and guanamine resins for water development)

RN 65993-46-6 HCA

CN 2-Propenamide, N-(butoxymethyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1852-16-0

CMF C<sub>8</sub> H<sub>15</sub> N O<sub>2</sub>

IC ICM G03F007-027

ICS G03F007-028; G03F007-032; G03F007-033; H05K003-06; H05K003-28

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST photosolder **resist** compn photosensitive oligomer; guanamine resin photosolder **resist** compn; epoxy resin photosolder **resist** compn

IT Phenolic resins, uses

(epoxy, novolak, photosolder **resists** contg. onium-contg. epoxy resins and guanamine resins for water development)

IT Epoxy resins, uses

(phenolic, novolak, photosolder **resists** contg. onium-contg. epoxy resins and guanamine resins for water development)

IT **Resists**

(photo-, photosolder **resists** contg. onium-contg. epoxy resins and guanamine resins for water development)

IT 26571-24-4, Delamine CTU 100

(Delamine CTU 100; photosolder **resists** contg.)

onium-contg. epoxy resins and guanamine resins for water development)

IT 71868-10-5

(photopolymn. initiator; photosolder **resists** contg.

onium-contg. epoxy resins and guanamine resins for water development)

IT 60-24-2D, 2-Mercaptoethanol, reaction products with glycidyl methacrylate and epoxy acrylates 79-10-7D, Acrylic acid, reaction products with epoxy resins 106-91-2D, Glycidyl methacrylate, reaction products with 2-Mercaptoethanol and epoxy acrylates 108-01-0D, Dimethylaminoethanol, reaction products with epoxy acrylates 2439-35-2D, reaction products with epoxy acrylates 26571-24-4 **65993-46-6** 178539-05-4D, reaction products with epoxy acrylates

(photosolder **resists** contg. onium-contg. epoxy resins and guanamine resins for water development)

L47 ANSWER 5 OF 18 HCA COPYRIGHT 2005 ACS on STN

123:230124 Energy-curable cyanate/ethylenically unsaturated compositions. McCormick, Fred J.; Drath, David J.; Gorodisher, Ilya; Kropp, Michael A.; Palazzotto, Michael C.; Sahyum, Melville R. V. (Minnesota Mining and Manufacturing Co., USA). PCT Int. Appl. WO 9429369 A1 19941222, 93 pp. DESIGNATED STATES: W: CA, CN, JP, KR, US; RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1994-US6756 19940615. PRIORITY: US 1993-78981 19930616.

AB Interpenetrating polymer networks are formed from a compn. of a polymerizable mixt. comprising cyanate ester and ethylenically unsatd. compds. or of .gtoreq.2 partially polymd. mixed syrups of ethylenically unsatd. monomers, wherein the curative for the cyanate ester is a transition metal-contg. organometallic compd. curing agent and the curative for the free-radically polymerizable monomer is a free-radical generating curing agent or a transition metal-contg. organometallic compd. The polymeric mixts. are useful, for example, in application requiring high performance, such as high temp. performance; in composites, particularly structural composites; structural adhesives; vibration damping material; electronic applications such as printed wiring boards, semiconductor encapsulants and electronic adhesives; **photoresists**; injection molding and prepgs; protective coatings; though self-supporting films; and high performance binders, and printing. A 1:1 mixt. of Quartex 7187 and isobornyl acrylate/isooctyl acrylate blend contg.  $[CpFe(CO)_2]_2$  and VR 110 azobistrimethylpentane was laminated between steel plates and cured at 105.degree. for 2 min and 180.degree. for 10 min; showing damping range ( $\tan \delta > 0.6$ ) 1-277.degree., vs. 17-60.degree. using conventional Zn octoate catalyst instead of organometallic. A 4:1 blend of isobornyl acrylate/isooctyl acrylate copolymer and poly(Et methacrylate)

syrups contg. radical catalyst and 0.2% crosslinker were photocured; showing damping range (0.1Hz; tan .delta. >0.6) -5 to 15.degree. and 79-91.degree..

IT **78733-25-2 168051-98-7**

(energy-curable cyanate ester/ethylenically unsatd. compns. for interpenetrating polymer networks for adhesives, damping material, and coatings)

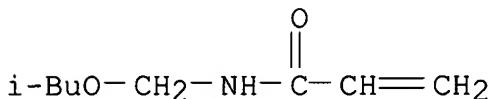
RN 78733-25-2 HCA

CN 2-Propenamide, N-[(2-methylpropoxy)methyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 16669-59-3

CMF C8 H15 N O2



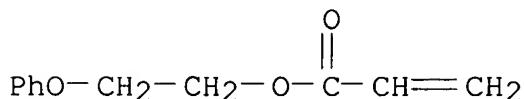
RN 168051-98-7 HCA

CN 2-Propenoic acid, 2-phenoxyethyl ester, polymer with N-[(2-methylpropoxy)methyl]-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 48145-04-6

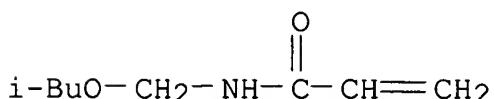
CMF C11 H12 O3



CM 2

CRN 16669-59-3

CMF C8 H15 N O2



IC ICM C08G073-06

CC 37-6 (Plastics Manufacture and Processing)

IT Section cross-reference(s): 35, 38, 42, 74

**Resists**  
(photo-, energy-curable cyanate ester/ethylenically unsatd. compns. for interpenetrating polymer networks for adhesives, damping material, and coatings)

IT 25722-66-1, B 30 47073-92-7, L 10 **78733-25-2**  
135507-37-8, Quatrex 7187 148855-34-9 163206-87-9, CN966H90  
168051-95-4 168051-96-5 168051-97-6 **168051-98-7**  
168191-66-0  
(energy-curable cyanate ester/ethylenically unsatd. compns. for interpenetrating polymer networks for adhesives, damping material, and coatings)

L47 ANSWER 6 OF 18 HCA COPYRIGHT 2005 ACS on STN  
123:230123 Energy-curable cyanate/ethylenically unsaturated compositions. McCormick, Fred B.; Drath, David J.; Gorodisher, Ilya; Kropp, Michael A.; Palazzotto, Michael C.; Sahyun, Melville R. V. (Minnesota Mining and Manufacturing Co., USA). PCT Int. Appl. WO 9429368 A1 19941222, 69 pp. DESIGNATED STATES: W: CA, CN, JP, KR; RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1994-US5240 19940512. PRIORITY: US 1993-78981 19930616.

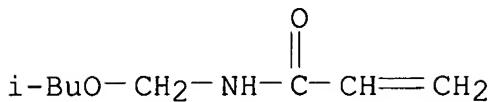
AB Interpenetrating polymer networks are formed from a compn. of a polymerizable mixt. comprising cyanate ester and ethylenically unsatd. compds. , wherein the curative for the cyanate ester is a transition metal-contg. organometallic compd. curing agent and the curative for the free-radically polymerizable monomer is a free-radical generating curing agent or a transition metal-contg. organometallic compd. The polymeric mixts. are useful, for example, in application requiring high performance, such as high temp. performance; in composites, particularly structural composites; structural adhesives; vibration damping material; electronic applications such as printed wiring boards, semiconductor encapsulants and electronic adhesives; **photoresists**; injection molding and prepgs; protective coatings; though self-supporting films; and high performance binders, and printing. A 1:1 mixt. of Quatrex 7187 and isobornyl acrylate/isooctyl acrylate blend contg.  $[CpFe(CO)_2]_2$  and azobistrimethylpentane was laminated between steel plates and cured at 105.degree. for 2 min and 180.degree. for 10 min; showing damping range ( $\tan \delta > 0.6$ ) 1-277.degree., vs. 17-60.degree. using conventional Zn octoate catalyst instead of organometallic.

IT **78733-25-2 168051-98-7**  
(energy-curable cyanate ester/ethylenically unsatd. compns. for interpenetrating polymer networks for adhesives, damping material, and coatings)

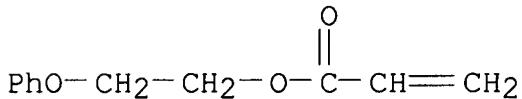
RN 78733-25-2 HCA  
CN 2-Propenamide, N-[(2-methylpropoxy)methyl]-, homopolymer (9CI) (CA

INDEX NAME)

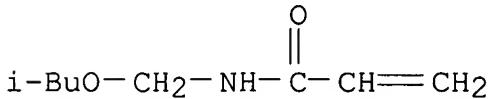
CM 1

CRN 16669-59-3  
CMF C8 H15 N O2RN 168051-98-7 HCA  
CN 2-Propenoic acid, 2-phenoxyethyl ester, polymer with  
N-[(2-methylpropoxy)methyl]-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 48145-04-6  
CMF C11 H12 O3

CM 2

CRN 16669-59-3  
CMF C8 H15 N O2

IC ICM C08G073-06  
 CC 37-6 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 35, 38, 42, 74  
 IT **Resists**  
 (photo-, energy-curable cyanate ester/ethylenically unsatd.  
 compns. for interpenetrating polymer networks for adhesives,  
 damping material, and coatings)  
 IT 25722-66-1 **78733-25-2** 135507-37-8, Quatrex 7187  
 148855-34-9 163206-87-9, CN966H90 168051-95-4 168051-96-5  
 168051-97-6 **168051-98-7** 168191-66-0  
 (energy-curable cyanate ester/ethylenically unsatd. compns. for

interpenetrating polymer networks for adhesives, damping material, and coatings)

L47 ANSWER 7 OF 18 HCA COPYRIGHT 2005 ACS on STN  
 120:334976 Photosensitive resin compositions useful as nonelectrolytic plating **resists** and solder **resists**. Hagio, Shigeru; Koda, Kazuhiko; Uehara, Shinichi (San Nopco Kk, Japan). Jpn. Kokai Tokkyo Koho JP 05273755 A2 19931022 Heisei, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-102122 19920328.

AB The title compns. contain (a) a compd. prep'd. by reacting 1 equiv. epoxy group of a compd. having  $\geq 2$  epoxy groups in its mol. with 0.2-0.8 equiv. unsatd. carboxylic acid, (b) a compd. having  $\geq 2$  ethylenic unsatd. bond in its mol., (c) a photoinitiator, (d) a epoxy-hardener, (e) a hydrophobic silica powder, and (f) a polymer with wt. av. mol. wt. (Mw) 1000-30,000 having a repeating unit  $\text{CH}_2\text{CR}_1(\text{CONHCH}_2\text{OR}_2)$  [R1 = H, C1-3 alkyl; R2 = H, C1-6 (hydroxy) alkyl]. The compns. show high resoln., good resistance to nonelectrolytic plating liqs., and improved thermal resistance. Thus, a photosensitive resin compn. comprised a partially esterified epoxy resin prep'd. by reacting Epiilon 855 (epoxy resin) with acrylic acid, trimethylolpropane triacrylate, Irgacure 907 (photoinitiator), 2-ethyl-4-methylimidazole, Aerosil R202 (hydrophobic silica), poly(N-butoxymethylacrylamide) (Mw 5000), and additives.

IT **65993-46-6**, Poly(N-butoxymethylacrylamide)  
 (photoresist from)

RN 65993-46-6 HCA

CN 2-Propenamide, N-(butoxymethyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1852-16-0

CMF C8 H15 N O2

$$\begin{array}{c}
 \text{O} \\
 || \\
 \text{n-BuO}-\text{CH}_2-\text{NH}-\text{C}-\text{CH}=\text{CH}_2
 \end{array}$$

IC ICM G03F007-038  
 ICS G03F007-004; G03F007-027; G03F007-028; G03F007-033;  
 H01L021-027; H05K003-18; H05K003-28

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 76

ST photosensitive resin compn polyacrylamide; epoxy resin ester  
 photosensitive compn; silica hydrophobic **photoresist**

IT Epoxy resins, uses

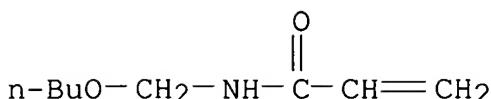
IT      (photoresist from)  
 IT      Phenolic resins, uses  
       (epoxy, novolak, photoresist from)  
 IT      Epoxy resins, uses  
       (phenolic, novolak, photoresist from)  
 IT      **Resists**  
       (photo-, useful for nonelectrolytic plating **resist** and  
       solder **resist**)  
 IT      931-36-2, 2-Ethyl-4-methylimidazole  
       (epoxy hardening agent, photoresist contg.)  
 IT      109944-58-3, Aerosil R 202 112153-70-5, Aerosil R 805  
       (photoresist contg.)  
 IT      15625-89-5, Trimethylolpropane triacrylate 17831-71-9,  
       Tetraethylene glycol diacrylate 29570-58-9, Dipentaerythritol  
       hexaacrylate **65993-46-6**, Poly(N-butoxymethylacrylamide)  
 135506-77-3 155050-02-5 155575-63-6  
       (photoresist from)

L47 ANSWER 8 OF 18 HCA COPYRIGHT 2005 ACS on STN  
 120:311579 Photosensitive resin compositions useful as nonelectrolytic  
 plating **resist** and solder **resists**. Hagio,  
 Shigeru; Koda, Kazuhiko; Uehara, Shinichi (San Nopco Kk, Japan).  
 Jpn. Kokai Tokkyo Koho JP 05273754 A2 19931022 Heisei, 10 pp.  
 (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-102123 19920328.  
 AB      The title compns. contain (a) a polymer with wt. av. mol. wt. (Mw)  
 1000-300,000 having a repeating unit CH<sub>2</sub>CR<sub>1</sub>(CONHCH<sub>2</sub>OR<sub>2</sub>) [R<sub>1</sub> = H,  
 C<sub>1</sub>-3 alkyl; R<sub>2</sub> = H, C<sub>1</sub>-6 (hydroxy)alkyl], (b) a reactant of a  
 polyvalent isocyanate having .gtoreq.1 isocyanuric ring with a  
 (meth)acrylic acid divalent alc. monoester, (c) a compd. having  
 .gtoreq.2 ethylenic unsatd. bond in its mol., and (d) a  
 photoinitiator. The compns. show high resoln., good resistance to  
 nonelectrolytic plating liqs., and useful as solder **resist**  
 . Thus, a photosensitive resin compn. comprised an urethane  
 acrylate prep'd. from Duramate TPA-100 (hexamethylene diisocyanate  
 trimer) and 2-hydroxyethyl acrylate, trimethylolpropane triacrylate,  
 Irgacure 907 (photoinitiator), poly(N-butoxymethylacrylamide) (MW  
 100,000), and additives.  
 IT      **40081-39-8 65993-46-6**, Poly(N-  
       butoxymethylacrylamide)  
       (photoresist from)  
 RN      40081-39-8 HCA  
 CN      2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
       N-(butoxymethyl)-2-propenamide (9CI) (CA INDEX NAME)

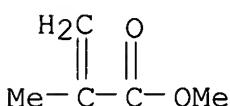
CM 1

CRN 1852-16-0

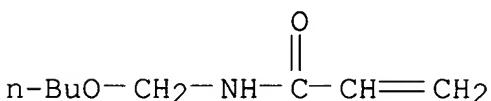
CMF C8 H15 N O2



CM 2

CRN 80-62-6  
CMF C5 H8 O2RN 65993-46-6 HCA  
CN 2-Propenamide, N-(butoxymethyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1852-16-0  
CMF C8 H15 N O2IC ICM G03F007-038  
ICS G03F007-027; G03F007-028; G03F007-037; H01L021-027; H05K003-06;  
H05K003-18CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)  
Section cross-reference(s): 76ST photosensitive resin compn polyacrylamide; urethane acrylate  
**photoresist**IT Soldering  
(**photoresist** for)IT Urethane polymers, uses  
(acrylic, **photoresist** from)IT Coating process  
(electroless, metalization, **photoresist** for)IT **Resists**  
(photo-, polyacrylamides, for nonelectrolytic plating and  
soldering)

IT Acrylic polymers, uses

IT (polyurethane-, **photoresist** from)  
 15625-89-5 17831-71-9 29570-58-9, Dipentaerythritol hexaacrylate  
**40081-39-8 65993-46-6**, Poly(N-butoxymethylacrylamide) 155116-13-5 155116-14-6D, reaction product with 2-hydroxyethyl methacrylate 155148-07-5D, reaction product with 2-hydroxypropyl acrylate  
**(photoresist from)**

L47 ANSWER 9 OF 18 HCA COPYRIGHT 2005 ACS on STN  
 120:90839 Visible laser beam-sensitive photopolymerizable imaging composition. Noguchi, Hiromichi; Ookuma, Norio (Canon Kk, Japan). Jpn. Kokai Tokkyo Koho JP 05027432 A2 19930205 Heisei, 16 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1991-167060 19910708.

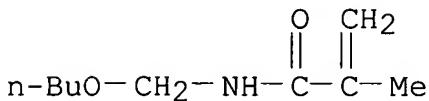
AB The title compn. comprises (A) a graft copolymer having a no. av. mol. wt. >5000 and a wt. av. mol. wt. <50000 and is prep'd. by adding side chains having structural units comprising .gtoreq.1 kind(s) of monomers CH<sub>2</sub>:C(R1)CONHCH<sub>2</sub>OR<sub>2</sub> (x) and CH<sub>2</sub>:C(R1)C(:O)R<sub>3</sub>N(R4)<sub>2</sub> (y) (R1 = H, Me; R<sub>2</sub> = H, C<sub>1-4</sub> alkyl which may have OH; R<sub>3</sub> = C<3 alkyl, substituted Ph; R<sub>4</sub> = H, Me, Et) to a main chain based on structural units comprising in the mol. an alkyl methacrylate and .gtoreq.1 kind(s) of monomers selected from dicyclopentenyl group-contg. acrylic monomers, isobornyl group-contg. acrylic monomers, and acrylonitrile, (B)—a linear polymer having a no. av. mol. wt. >50000, a wt. av. mol. wt. <350,000, a glass transition temp. >60.degree., structural units comprising .gtoreq.1 kind(s) of monomers selected from Me methacrylate, Et methacrylate, iso-Bu methacrylate, styrene, etc., and structural units comprising .gtoreq.1 kind(s) of monomers from (x) and (y), (C) a polyfunctional monomer having .gtoreq.2 ethylenic unsatd. bonds in 1 mol. and contg. no epoxy group, (D) a polyfunctional monomer which is a polyfunctional epoxy resin partially esterified with acrylic acid, (E) .gtoreq.1 radical-generating agent(s) selected from arom. sulfonium salts, arom. iodonium salts, trihalomethyl triazines, and camphorquinone, and (F) a sensitizer selected from coumarin, thioxanthone, styryl styryl ketones, styryl Ph ketones, and benzil. The compn. is highly sensitive to visible light, has superior resoln., has sufficient adhesion to all kinds of supports, is resistant to chems., has durability, and is practical for patternwise exposure with a visible laser beam.

IT **59424-34-9 152728-65-9**  
 (visible laser beam-sensitive photopolymerizable imaging compn. contg.)

RN 59424-34-9 HCA

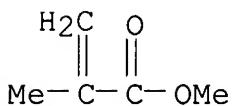
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with N-(butoxymethyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CRN 5153-77-5  
 CMF C9 H17 N O2



CM 2

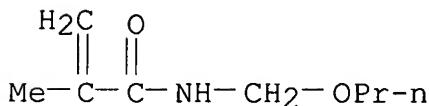
CRN 80-62-6  
 CMF C5 H8 O2



RN 152728-65-9 HCA  
 CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
 2-methyl-N-(propoxymethyl)-2-propenamide (9CI) (CA INDEX NAME)

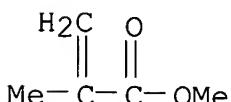
CM 1

CRN 3644-10-8  
 CMF C8 H15 N O2



CM 2

CRN 80-62-6  
 CMF C5 H8 O2



IC ICM G03F007-027  
 ICS C08F002-50; C08F291-00; C08F299-02; C08G059-18; G03F007-027;  
 G03F007-029; G03F007-031; G03F007-033; G03F007-038; H01L021-027  
 ICA C08F002-44

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 ST photopolymerizing imaging compn visible light; visible laser photopolymerizing imaging compn; **photoresist** visible laser  
 IT **Resists**  
     (photo-, visible laser-sensitive, with high sensitivity and resln.)  
 IT 86-39-5, 2-Chlorothioxanthone 538-58-9 3454-29-3D, reaction product with acrylic acid 3524-68-3, Pentaerythritol triacrylate 10373-78-1, Camphorquinone 30361-83-2 56744-60-6, NK Ester BPE 200 58109-40-3 **59424-34-9** 62886-89-9, Aronix M 8060 63226-13-1 74227-35-3 89452-37-9 93365-36-7 97709-04-1D, Sumidur L, reaction product with hydroxyethyl acrylate 152692-73-4 152692-74-5 152692-75-6 152692-76-7 **152728-65-9**  
     152728-66-0 152729-00-5  
     (visible laser beam-sensitive photopolymerizable imaging compn. contg.)

L47 ANSWER 10 OF 18 HCA COPYRIGHT 2005 ACS on STN  
 119:170515 Photosensitive resin compositions useful for making alkali-soluble **resists**. Hagio, Shigeru; Koda, Kazuhiko; Uehara, Shinichi (San Nopco Kk, Japan). Jpn. Kokai Tokkyo Koho JP 05107760 A2 19930430 Heisei, 8 pp. (Japanese). CODEN: JKXXAF.  
 ✓ APPLICATION: JP 1991-295183 19911014.

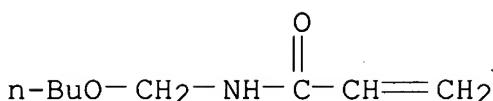
AB The title resin compns. comprise a binder polymer which can form a film(sol), or swellable in aq. alkali solns., a compd. which generates a strong acid by irradn. with active energy rays, and a polymer having a repeating unit  $\text{CH}_2\text{CR}_1(\text{CONHCH}_2\text{OR}_2)$  [R1 = H, C1-3 = alkyl; R2 = H, C1-6 (hydroxy)alkyl]. The compns. are useful for making **resists** developable with aq. alkali solns. and show high photosensitivity and resln. and good resistance to non-electrolysis plating solns. Thus, a **resist** was prep'd. by using cresol-novolak resin, Me methacrylate-Et acrylate-methacrylic acid copolymer, 2,3,4-trihydroxybenzophenone-1,2-naphthoquinonediazido-4-sulfonic acid ester, and N-n-butoxymethylacrylamide-Me methacrylate copolymer.

IT **40081-39-8**  
     (**photoresist** contg.)

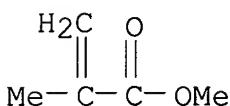
RN 40081-39-8 HCA  
 CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with N-(butoxymethyl)-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 1852-16-0  
 CMF C8 H15 N O2



CM 2

CRN 80-62-6  
CMF C5 H8 O2

IC ICM G03F007-027  
 ICS G03F007-004; G03F007-022; G03F007-029; G03F007-038;  
 H01L021-027; H05K003-06

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 Section cross-reference(s): 76

ST methylolacrylamide copolymer acid generator **photoresist**

IT Phenolic resins, uses  
 (novolak, cresol-based, **photoresist** contg.)

IT **Resists**  
 (photo-, contg. strong acid-generator and  
 alkoxyethyl(meth)acrylamide copolymer)

IT 83197-54-0 84522-08-7  
 (acid generator, **photoresist** contg.)

IT 9011-13-6, Maleic anhydride-styrene copolymer 25133-97-5, Ethyl  
 acrylate-methacrylic acid-methyl methacrylate copolymer  
**40081-39-8**  
 (**photoresist** contg.)

5614351

L47 ANSWER 11 OF 18 HCA COPYRIGHT 2005 ACS on STN  
 114:33154 Radiation-hardenable mixture and radiation-sensitive recording  
 material for high energy radiation therefrom. Dammel, Ralph;  
Lingnau, Juergen; Pawlowski, Georg; Theis, Juergen (Hoechst A.-G.,  
 Germany). Ger. Offen. DE 3907953 A1 19900913, 10 pp. (German).  
 CODEN: GWXXBX. APPLICATION: DE 1989-3907953 19890311.

AB Radiation-hardenable mixts. for the prodn. of recording materials  
 for use with high-energy radiation are composed of an acid-forming  
 compd., such as an aliph. compd. that contains a Cl or Br and shows  
 a pKa of  $\text{pK}_a < 12$ , and a compd. that is acid hardenable. The  
 mixts., which are esp. useful as x-ray **resists**, have a  
 high sensitivity, improved resoln., and show no image fog after

development. Thus, a Si wafer was overcoated with a soln. contg. a cresol-HCHO novolak (softening 105 to 120.degree.), 0-2,2,2-trichloroethyl N-(4-hydroxyphenyl)carbamate, Cymel 1116 (a poly(alkoxymethyl)melamine), and propylene glycol mon-Me ether acetate, dried, imagewise exposed through a mask using synchrotron x-ray radiation, and developed to show a defect-free image with all the details of the mask.

IT 130928-15-3

(x-ray **resists** contg. acid-forming compd. and)

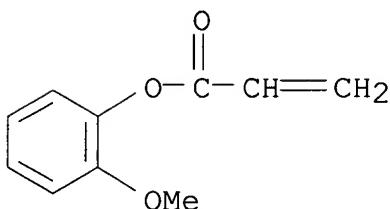
RN 130928-15-3 HCA

CN 2-Propenoic acid, 2-methoxyphenyl ester, polymer with  
N-(methoxymethyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 106993-01-5

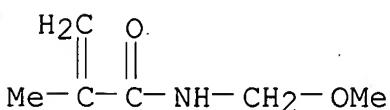
CMF C10 H10 O3



CM 2

CRN 3644-12-0

CMF C6 H11 N O2



IC ICM G03F007-004

ICA G03F007-09; G03F007-16; G03F007-20; G03F007-32; H01L021-312;  
C08J003-28ICI C08J003-24, C08L025-18, C08L033-14, C08L033-24, C08L035-00,  
C08L061-00, C08L041-00CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)ST radiation hardenable mixt acid former; x ray **resist** acid  
formerIT Phenolic resins, uses and miscellaneous  
(novolak, x-ray **resists** contg. acid-forming compd. and)

IT **Resists**

(x-ray, radiation-hardenable mixts. contg. acid-forming compd. and acid-hardenable compd. for)

IT 9016-83-5, Cresol-formaldehyde copolymer

(novolak, x-ray **resists** contg. acid-forming compd. and)

IT 609-15-4P, Ethyl 2-chloro-3-oxobutyrate 686-92-0P,  
1,1,1-Trichloroacetylacetone 687-00-3P 717-10-2P 13176-46-0P,  
Ethyl 4-bromo-3-oxobutyrate 64434-81-7P 131170-14-4P  
131170-15-5P 131170-16-6P

(prepn. and x-ray **resists** contg. acid-hardenable compd. and)

IT 9003-08-1, Cymel 1116 **130928-15-3** 130960-19-9, Grinolit  
RV 1815

(x-ray **resists** contg. acid-forming compd. and)

L47 ANSWER 12 OF 18 HCA COPYRIGHT 2005 ACS on STN

112:243102 Photosensitive resin compositions, and **resist** films  
therefrom. Yamazaki, Hiroshi; Tsuchiya, Katsunori; Ishimaru,  
Toshiaki (Hitachi Chemical Co., Ltd., Japan). Jpn. Kokai Tokkyo  
Koho JP 01309050 A2 19891213 Heisei, 10 pp. (Japanese). CODEN:  
JKXXAF. APPLICATION: JP 1988-140716 19880608.

AB Resin compns. contain (a) nongaseous ethylenic monomers having  
.gtoreq.2 C:C bonds, (b) a thermoplastic polymer binder contg.  
carboxy groups, (c) photopolymn. initiators, and (d) a crosslinking  
polymer (or copolymer) not contg. carboxy and OH groups and with a  
wt.-av. mol. wt. of 3000-50,000, and having units of the formula  
-CH2CR1(CONHCH2OR2)- (R1 = H, Me; R2 = C1-6 alkyl). The invention  
includes dry film **resists** having layers of the compns. on  
substrates. These **resists** and films are stable in storage  
and do not exude the compns. from the film edges. Thus,  
N-butoxyacrylamide was polymd. in the presence of a chain transfer  
agent and ABIN to obtain a PhMe soln. contg. the homopolymer with a  
mol. wt. of 5300. Glycidyl methacrylate, Epikote 828, Epikote 152  
(epoxy resin), Cymel 300, and the above polymer were added to a  
soln. contg. 20:20:60 2-ethylhexyl methacrylate-Me methacrylate  
copolymer, 5:8:16 1,4-cyclohexanedimethanol-2-hydroxy  
acrylate-trimethylhexamethylene diisocyanate copolymer, and other  
agents. A dry film **photoresist** prep'd. by using this  
compn. was applied on a Cu-coated printed circuit board, and the  
**resist** layer was developed with aq. Na2CO3 and UV cured to  
obtain a solder mask which showed no anomalies when boiled in water  
and then soldered using a rosin flux. The developability of the  
film was unaffected by storage at 40.degree. for 40 days. No  
exuding from the edge was obsd. when the dry film was stored in  
wound form at 23.degree. and .ltoreq.70 days.

IT **40081-39-8 65993-46-6**, Poly(N-butoxymethyl  
acrylamide)

(dry-film **photoresists** contg., as crosslinking agent)

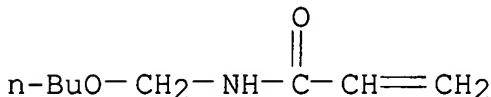
RN 40081-39-8 HCA

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
N-(butoxymethyl)-2-propenamide (9CI) (CA INDEX NAME)

CM 1

CRN 1852-16-0

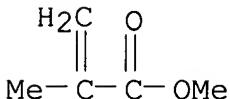
CMF C8 H15 N O2



CM 2

CRN 80-62-6

CMF C5 H8 O2



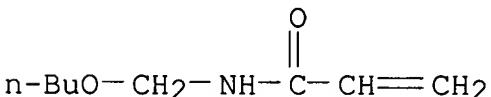
RN 65993-46-6 HCA

CN 2-Propenamide, N-(butoxymethyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1852-16-0

CMF C8 H15 N O2



IC ICM G03C001-68

ICS G03C001-00

ICA C08F002-44; C08F002-48; C08F020-20

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)

Section cross-reference(s): 38

ST dry film **resist** storage stable; **photoresist**  
solder mask alkali developableIT Epoxy resins, uses and miscellaneous  
(dry-film **photoresists** contg.)

IT Soldering  
 (masks for, dry-film **photoresists** for prodn. of)  
 IT **Resists**  
 (photo-, dry-film, for solder mask prepn., storage stable)  
 IT Electric circuits  
 (printed, dry-film **resists** as solder mask for manuf.  
 of)  
 IT 106-91-2, Glycidyl methacrylate 9003-08-1, Cymel 300 25068-38-6,  
 Epikote 828 25133-98-6, 2-Ethylhexyl acrylate-methacrylic  
 acid-methyl methacrylate copolymer 82400-42-8 84778-06-3,  
 Epikote 152  
 (dry-film **photoresists** contg.)  
 IT 40081-39-8 65993-46-6, Poly(N-butoxymethyl  
 acrylamide)  
 (dry-film **photoresists** contg., as crosslinking agent)

L47 ANSWER 13 OF 18 HCA COPYRIGHT 2005 ACS on STN  
 107:208872 Crosslinkable **resist**. Sugita, Kazuyuki; Ueno,  
 Nobuo; Sasaki, Shigeru; Osada, Shiro (Kuraray Co., Ltd., Japan).  
 Jpn. Kokai Tokkyo Koho JP 62079444 A2 19870411 Showa, 6 pp.  
 (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-221451 19851003.

AB A crosslinkable **resist** is obtained from a copolymer having  
 the structure repeating unit  $\text{CH}_2\text{CR}_1(\text{CONR}_2\text{CH}_2\text{OR}_3)$  [ $\text{R}_1 = \text{H}$ , lower  
 (halo)alkyl, halo, cyano;  $\text{R}_2 = \text{H}$ , lower alkyl;  $\text{R}_3 = \text{lower}$   
 (halo)alkyl, aryl, aralkyl]. The **resist** is prep<sup>d</sup>. readily  
 and has excellent sensitivity and resoln. Thus, 0.4:99.6 mol  
 N-methoxymethylmethacrylamide-Me methacrylate copolymer was coated  
 on a glass plate, irradiated with an electron beam, and developed to  
 show excellent sensitivity and contrast.

IT 28015-39-6 59424-34-9 111100-85-7  
 (**resist** compn. contg.)

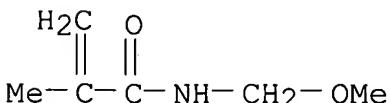
RN 28015-39-6 HCA

CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
 N-(methoxymethyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

CM 1

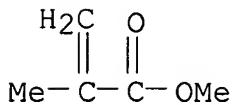
CRN 3644-12-0

CMF C6 H11 N O2



CM 2

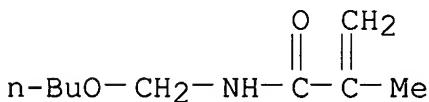
CRN 80-62-6  
 CMF C5 H8 O2



RN 59424-34-9 HCA  
 CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
 N-(butoxymethyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

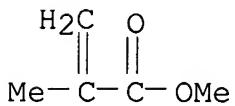
CM 1

CRN 5153-77-5  
 CMF C9 H17 N O2



CM 2

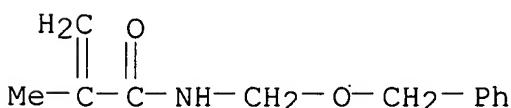
CRN 80-62-6  
 CMF C5 H8 O2



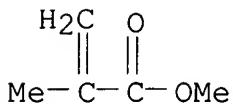
RN 111100-85-7 HCA  
 CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
 2-methyl-N-[(phenylmethoxy)methyl]-2-propenamide (9CI) (CA INDEX  
 NAME)

CM 1

CRN 91640-39-0  
 CMF C12 H15 N O2



CM 2

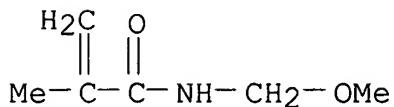
CRN 80-62-6  
CMF C5 H8 O2

IC ICM G03C001-71  
 ICS G03C005-16; G03F007-10  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 ST **resist** methylol methacrylamide deriv copolymer; electron  
 beam **resist** polymethacrylamide  
 IT **Resists**  
 (electron-beam, pos.-working, curable, methyolmethacrylamide  
 deriv. copolymer in)  
 IT **28015-39-6 59424-34-9 111100-85-7**  
 (**resist** compn. contg.)

L47 ANSWER 14 OF 18 HCA COPYRIGHT 2005 ACS on STN  
 104:131691 Radiation-polymerizable composition and process for applying  
 markings to a solder **resist** layer. Geissler, Ulrich;  
 Lampas, Heide (Hoechst A.-G., Fed. Rep. Ger.). Eur. Pat. Appl. EP  
 157374 A2 19851009, 24 pp. DESIGNATED STATES: R: AT, BE, CH, DE,  
 FR, GB, IT, LI, NL, SE. (German). CODEN: EPXXDW. APPLICATION: EP  
 1985-103766 19850328. PRIORITY: DE 1984-3412992 19840406.  
 AB The title compns., useful in printed circuit prodn., contain compds.  
 contg. .gtoreq.2 terminal vinyl groups, polymeric binders, radical  
photoinitiators, thermosetting compds., and pigments. Thus, a mixt.  
 of 60:30:10 hexyl methacrylate-methacrylic acid-styrene copolymer  
 (mol. wt. 35,000) 13, polyethylene glycol (mol. wt. 400)  
 dimethacrylate 6.4, curable elastomer (TDI-1,4-butanediol  
 oligomer-adipic acid-glycidyl methacrylate reaction product) 1.6,  
 9-phenylacridine 0.2, hexakis(methoxymethyl)melamine 0.41, azo dye  
 0.01, and anthraquinone dye 0.03 parts could be cured by a 5-kW  
 metal halide lamp in 12 s.  
 IT **97567-01-6**  
 (inks contg., photocurable, for marking of solder **resists**  
 for printed circuits)  
 RN 97567-01-6 HCA  
 CN 2-Propenoic acid, 2-methyl-, hexyl ester, polymer with  
 N-(methoxymethyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

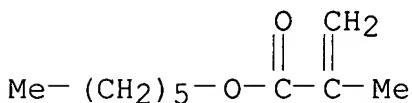
CM 1

CRN 3644-12-0  
 CMF C6 H11 N O2



CM 2

CRN 142-09-6  
 CMF C10 H18 O2



IC ICM G03C001-68  
 ICS G03F007-02; H05K003-34  
 CC 42-12 (Coatings, Inks, and Related Products)  
 ST ink photocurable solder **resist**; printed circuit ink  
 photocurable; crosslinking photochem ink; methacrylate ink  
 photocurable; melamine resin ink photocurable; polyurethane  
 methacrylate ink photocurable  
 IT Urethane polymers, uses and miscellaneous  
 (methacrylates, in photocurable inks for marking of solder  
**resists**)  
 IT Crosslinking  
 (photochem., of inks, for use on solder **resists** for  
 printed circuits)  
 IT Electric circuits  
 (printed, inks for marking of solder **resists** in,  
 photocurable)  
 IT **Resists**  
 (solder, marking of, photocurable inks for)  
 IT 106-91-2D, reaction products with adipic acid and polyurethanes  
 124-04-9D, reaction products with glycidyl methacrylate and  
 polyurethanes 37338-53-7D, reaction products with adipic acid and  
 glycidyl methacrylate 54633-10-2D, reaction products with adipic  
 acid and glycidyl methacrylate 58601-54-0  
 (inks contg, photocurable, for marking of solder **resists**  
 for printed circuits)  
 IT 9003-08-1 25852-47-5 97566-97-7 **97567-01-6**  
 101052-55-5  
 (inks contg., photocurable, for marking of solder **resists**)

for printed circuits)

L47 ANSWER 15 OF 18 HCA COPYRIGHT 2005 ACS on STN  
 103:79491 Mixture polymerizable by radiation and copying material produced from it. Geissler, Ulrich (Hoechst A.-G. , Fed. Rep. Ger.). Ger. Offen. DE 3329443 A1 19850307, 34 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1983-3329443 19830816.

AB Photopolymerizable, compns. for the prodn. of thermally posthardenable image patterns, esp. solder masks, are composed of a radiation-activatable photoinitiator and a polymer binder with crosslinkable side chains. These compns., which have the same good keeping qualities as known mixts., produce exposure products that are harder and more resistant to solvents. Thus, a compd. contg., an N-butoxymethylmethacrylamide-hexyl methacrylate-methacrylic acid copolymer (25:50:25) 52, polyethylene glycol 400 dimethacrylate 17.6, hexamethoxymethylmelamine 4, 9-phenylacridine 0.8, a blue azo dye from the coupling product of 2-methoxy-5-acetylamino-N,N-diethylaniline with a 2,4-dinitro-6-chlorobenzenediazonium salt 0.04, 1,4-bis(4-tert-butoxyphenylamino)-5,8-dihydroxyanthraquinone 0.12, butanone 90, and EtOH 50 parts was coated on a biaxially oriented and heat-fixed poly(ethylene terephthalate) film, to give a 100 .mu.m dry layer, overlayed with a polypropylene film, the film removed, and then laminated to a Cu foil-laminated phenolic plate. This laminate was then exposed and spray developed to show 10 full steps and a development time of 110 s vs. 8 and 105 s for a control, contg. a hexyl methacrylate-methacrylic acid-styrene copolymer.

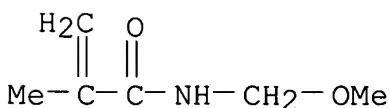
IT 97567-01-6  
 (photopolymerizable compns. contg., thermally hardenable, for solder mask fabrication)

RN 97567-01-6 HCA

CN 2-Propenoic acid, 2-methyl-, hexyl ester, polymer with N-(methoxymethyl)-2-methyl-2-propenamide (9CI) (CA INDEX NAME)

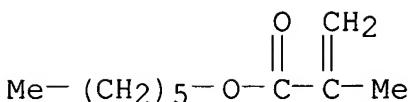
CM 1

CRN 3644-12-0  
 CMF C6 H11 N O2



CM 2

CRN 142-09-6  
 CMF C10 H18 O2



IC ICM C08L033-26  
 ICS C08L033-02; C08L033-06; C08J003-28; C08J003-24; C08K005-00;  
 G03C001-68

CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 Section cross-reference(s): 37

IT **Resists**  
 (photo-, thermally hardenable photopolymerizable photocompns.  
 for)

IT 106-91-2D, reaction products with adipic acid and oligomeric  
 diisocyanate 124-04-9D, reaction products with glycidyl  
 methacrylate and oligomeric diisocyanate 26471-62-5D, reaction  
 products with adipic acid and glycidyl methacrylate and  
 polytetramethylene ether diol 79295-99-1 92460-68-9 97567-00-5  
**97567-01-6**

(photopolymerizable compns. contg., thermally hardenable, for  
 solder mask fabrication)

L47 ANSWER 16 OF 18 HCA COPYRIGHT 2005 ACS on STN

99:185025 Photosensitive composition. (Kuraray Co., Ltd., Japan). Jpn.  
 Kokai Tokkyo Koho JP 58137834 A2 19830816 Showa, 6 pp. (Japanese).  
 CODEN: JKXXAF. APPLICATION: JP 1982-20036 19820209.

AB A photosensitive material contains an org. photosensitizer and  
 modified poly(vinyl alc.)(PVA) contg. polymer units  
 $-\text{CH}_2\text{CR}(\text{CONHCH}_2\text{OR}_1)$  (R = H, lower alkyl; R1 = alkyl). The preferred  
 modified PVA is a sapon. N-methoxymethylacrylamide-vinyl acetate  
 copolymer or a sapon. N-n-butoxymethylacrylamide-vinyl acetate  
 copolymer. The compn. has high photosensitivity, and the  
 insolubilized photosensitive film is more firmly adhered to  
 substrate resulting in clearer images. Thus, an aq. soln. of  
 modified PVA (copolymer unit = N-methoxymethylacrylamide 2 mol %,  
 degree of sapon. = 89 mol %, av. degree of polymn. = 2020) and a  
 diphenylamine-4-diazonium chloride-formalin condensed resin was  
 coated on a Zn plate. The plate was UV-irradiated and treated with  
 aq. chromic acid at 120.degree. to obtain a **resist** image  
 which after treatment gave a printing plate of high resoln.

IT **87737-33-5 87737-34-6 87737-35-7**

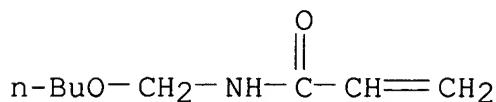
**87737-36-8**

(photoimaging compn. contg., for printing plate prep.)

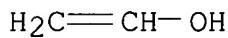
RN 87737-33-5 HCA

CN 2-Propenamide, N-(butoxymethyl)-, polymer with ethenol (9CI) (CA  
 INDEX NAME)

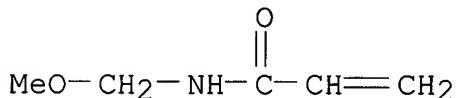
CM 1

CRN 1852-16-0  
CMF C8 H15 N O2

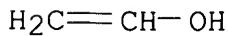
CM 2

CRN 557-75-5  
CMF C2 H4 ORN 87737-34-6 HCA  
CN 2-Propenamide, N-(methoxymethyl)-, polymer with ethenol (9CI) (CA INDEX NAME)

CM 1

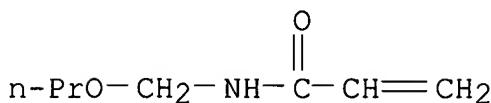
CRN 3644-11-9  
CMF C5 H9 N O2

CM 2

CRN 557-75-5  
CMF C2 H4 ORN 87737-35-7 HCA  
CN 2-Propenamide, N-(propoxymethyl)-, polymer with ethenol (9CI) (CA INDEX NAME)

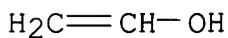
CM 1

CRN 38779-95-2  
 CMF C7 H13 N O2



CM 2

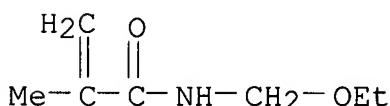
CRN 557-75-5  
 CMF C2 H4 O



RN 87737-36-8 HCA  
 CN 2-Propenamide, N-(ethoxymethyl)-2-methyl-, polymer with ethenol  
 (9CI) (CA INDEX NAME)

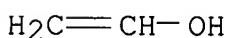
CM 1

CRN 3644-09-5  
 CMF C7 H13 N O2



CM 2

CRN 557-75-5  
 CMF C2 H4 O



IC G03C001-71  
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 IT 868-77-9 2142-69-0 14263-94-6 **87737-33-5**  
**87737-34-6 87737-35-7 87737-36-8**  
 (photoimaging compn. contg., for printing plate prep.)

L47 ANSWER 17 OF 18 HCA COPYRIGHT 2005 ACS on STN  
 79:5913 Metal carbonyl photoinitiators for polymerization of vinyl compounds. Barzynski, Helmut; Mueller, Franz Josef; Jun, Mont-Jon; Velic, Milan (Badische Anilin- & Soda-Fabrik AG). Ger. Offen. DE 2142105 19730301, 16 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1971-2142105 19710823.

AB Metal carbonyl compds., e.g. bis(cyclopentadienyliron dicarbonyl) (I) [39278-71-2] were used with chloro compd. cocatalysts, e.g. hexachloroethane (II) [67-72-1], as photoinitiators for the polymn. of vinyl monomers or unsatd. polymer resins used as coating materials or for photorelief and printing plates. Thus, irradn. of a 20% monomer soln. contg. 5% II and 0.1% I with light of wavelength 470-820 m.mu. under Ar gave bis(N-methylolacrylamide) glycol ether polymer [26966-45-0] at efficiency 15.4 vs. 0 for Fe<sub>3</sub>(CO)<sub>12</sub>.

IT **26966-45-0P**

(manuf. of, catalysts for photochem.)

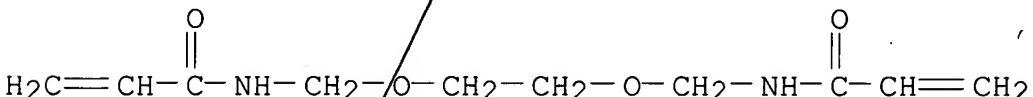
RN 26966-45-0 HCA

CN 2-Propenamide, N,N'-(1,2-ethanediylbis(oxymethylene)]bis-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 21988-92-1

CMF C10 H16 N2 O4



IC C08F

CC 35-4 (Synthetic High Polymers)

Section cross-reference(s): 29, 74

IT Crosslinking catalysts

(metal complexes-chlorides, for polyesters and **photoresists** by light)

IT Printing plates

(**photoresists** for, crosslinking catalysts for use in)

IT Phenolic resins

Polyamides, uses and miscellaneous

(**photoresists**, crosslinking catalysts for use in)

IT 25086-89-9P **26966-45-0P**

(manuf. of, catalysts for photochem.)

IT 25300-64-5 31442-13-4 42120-77-4

(**photoresists**, crosslinking of, catalysts for photochem.)

L47 ANSWER 18 OF 18 HCA COPYRIGHT 2005 ACS on STN  
 71:51172 Polymeric N-(acyloxyethyl) derivatives of .alpha.,.beta.-unsaturated carboxamides as binders. Dinges, Karl; Mueller, Erwin; Knapp, Karl H.; Berlenbach, Wilhelm (Farbenfabriken Bayer A.-G.). Ger. DE 1296602 19690604, 7 pp. (German). CODEN: GWXXAW.

APPLICATION: DE 19620510.

AB Polymers of N-(acyloxyethyl)acrylamides and methacrylamides are used as reactive binders in the printing, padding, and impregnating of textiles. Thus, 250 parts of a 40% aq. polymer dispersion prep'd. from Bu acrylate 116, styrene 74, acrylamide 5, N-(acetoxyethyl)acrylamide 5, water 300, Na C10-16 alkyl sulfate 6, and stearyl alc.-ethylene oxide adduct 6 parts was emulsified with 30% aq. channel black (Philblack A) dispersion 150, 4% aq. Na alginate 100, and white spirit 500 parts, giving an elastic paste of intermediate viscosity which gave a deep black tone in the roller printing of cotton and rayon. The printing had very good washing and rubbing fastness after 5 min. fixing at 120.degree.. Reactive polymers were also prep'd. using Me acrylate, acrylonitrile, Et acrylate, Et methacrylate, and butadiene as comonomers, and N-(benzoyloxyethyl)acrylamide, N - (benzoyloxyethyl)methacrylamide, and N-(acetoxyethyl)methacrylamide as reactive components. The polymers were also used as binders in **resist** printing pastes, pad dye baths, and for cellulose fiber fleeces. The crosslinking of these reactive polymers on the substrate gives dyeings and printings with excellent fastness.

IT **24968-85-2**

(stiffening of textiles by pptn. polymn. of)

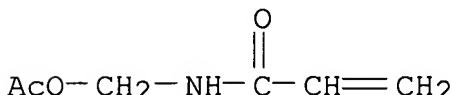
RN 24968-85-2 HCA

CN Acrylamide, N-(hydroxymethyl)-, acetate (ester), polymers (8CI) (CA INDEX NAME)

CM 1

CRN 22657-68-7

CMF C6 H9 N O3



IC D06PMQ; D21H

CC 39 (Textiles)

IT **24968-85-2**

(stiffening of textiles by pptn. polymn. of)